BEGINNING OF JOURNAL OF L. J. BRASS IN DUPLICATE.

Monday, 3/2/53: At Lennon's Hotel in Brisbane to attend to business before leaving for New Guinea. Brisbane suffering a heat wave. Temperature 95F. for past 2 days, but dropped to 85° max and 21% humidity today.

Much of day spent in making arrangements for the arroval and departure of Tate and Van Deuson. Their ship from New York is almost a week behind schedule and is due about noon on the 13th. They have plane reservations with Qantus for departure for Port Moresby at 10:30 A.M. on the 14th. Even if the ship arrives without further delay, there would not be time for arranging for clearances from Australia by normal procedures especially as the 14th is a Saturday.

Had to lunch U.S. Consul Charles M. Carson, Bob Bunting and Dennis M. Williams. Bunting is head of A. H. Bunting Ltd., our expedition agents in Samarai. He is en route for Canada and England. Williams is Bunting's agent in Brisbane, and has been very helpful. Bunting reports that our cargo has arrived in Samarai in apparently perfect condition. He has lined up as transport and supplies man for us a man named Wynn, ex-District Officer, who knows the country. A good man, says Bunting, though not in the superlative class of C.J. Adamson, who did our transport in 1933-34. Bunting has very kindly offered us the use of his house in Samarai. Says the boarding houses there is "bloody awful."

Tuesday, 3/3/53: Have documents all in hand for Geoff and Van: (1) Income tax clearances from Australia; (2) permits to land in Papua; (3) permits to reenter Australia from Papua. The taxation clearance man (Houston) and Migration Office man (McLeod) very friendly and helpful. Documents left with Dennis Williams, who will meet the "Pioneer Glen", take Geoff and Van to the Qantas office to pick up their air tickets, etc.

Called on Dr. D. A. Herbert, Professor of Botany and Science Dean at the Queensland University. Learned over the usual mid-morning cup of tea that the University has quite a number of science students from southeast Asian countries, especially Ceylon and Java, the latter mostly Chinese. Building proceeds very slowly on the new University site at St. Lucia in the western Suburbs. Only about £25,000 a year available for construction.

Made a second visit to the Queensland Herbarium and talked with Francis, Everist, Blake and Smith. Had to lunch J.T. Brooks, ex-Chief Inspector of Customs (retired), and interested in medicinal plants, who will use his influence if the "Pioneer Glen" is further delayed and quick Customs clearances are needed by Geoff and Van. In afternoon called at Dept. of Agriculture & Stock to see R. W. Peters (cotton man). Cotton acreage this year in Queensland 16,000, all American Upland. In absence of R. Veitch, Assistant Under-Secretary (Technical) talked with George Simmonds about an unfortunate occurrence in which Archbold Expeditions was involved a couple of years ago -- collection of mammal specimens in North Queensland by J. T. Roberts (a local man) without prior arrangements for the necessary permit. The Dept. forgave us long ago and issued a permit to Roberts.

Wed. 3/4/53: Took off from Brisbane at 11:50 last night on Qantas DC4 "Bird of Paradise" flight to Port Moresby. A full passenger list. Mostly young or youngish men; some women and small children. Part of the night was taken up with breakfast, for which passengers were aroused at 4:15: Tomato juice, corn flakes, fried fish, rolls and tea. This was nicely timed. The trays had scarcely been cleared away when we struck rough air in clouds over the Coral Sea and the hostess was tossed flat on her back in the aisle.

3/4/53 (Cont'd) The hilly Port Moresby coast was close ahead at dawn. Grassy sea-facing slopes a pale green. Dark timber (monsoon forest) in gullies. Eucalyptus savanna forest behind the first line of hills. Dark clouds covering the mountains inland. We swing in to the airport over Bootless Inlet and landed on a good wartime runway, partly bitumen -surfaced and partly of metal matting. Airport buildings few and unpretentious. No bustle in handling passengers and their baggage. We had filled in Customs declarations, but all the officer wanted to know was whether firearms were carried. There was no inspection.

Was met at airport by Bernard Ryan of Burns,Philp &Co., our agents on previous expeditions, but not this time. Am staying at the Papuan Hotel. New place, not bad to look at, but badly run. For example, the hotel has no arrangement for laundry and neither desk lady nor housekeeper can, or will, advise where it can be done. Food poor though mostly fresh (not canned) and helpings scanty. Was sent upstairs to put on a tie for dinner. Few people staying here. The verve and flavor of the old days have gone.

Day spent in interviews with government officers. Administrator D.M. Cleland is away on tour. Forest Director J. McAdam away on leave. First saw Govt. Secretary Steve Lonergan. Pleasant man who delegated his #2 man, Claude Champion, just back from Australia and nominally still on leave, to introduce me to department heads and make arrangements for the expedition. Lonergan evidently efficient, for all departments concerned have a file on us. Not clear yet what assistance we will get from Government, but feel optimistic except as regards Customs duties. Chief Customs Collector Frank Lee a narrow type of civil servant who seems inclined to fillow every line in the book, and appears somewhat anti-American (first official of the type met here or in Brisbane). John Foldi, Asst. Director of District Services & Native Affairs (Chief Roberts is on leave) a genial giant who, I feel, will be helpful. Day ended with a non-business call on Ivan Champion who has done much exploration (Royal Geographical Society Gold Medalist) and is now in charge of a new department or sub-department set up to determine native ownership of all lands and establish a title system for the whole country. Europeans for many years have been unable to buy land. Government buys from native owners and leases to white men.

Thursday 3/5/53: Ivan Champion picked me up at the hotel at 8 o'clock and we drove out to the Govt. offices at Konedobu (2 miles) in his land-rover or British Jeep. First called at Forestry Dept. and talked with Clarke, an office man temporarily in charge. At Foldi's office scanned some recent patrol reports on the country we plan to work in; not much information I do not already have, and none on the mountains proper. Took up with Ivan Champion such matters as collecting permits, Govt. assistance and attachment of Govt. personnel to our party. When official permission for our work was granted, a request was made that "at least one copy (sic) of all botanical and entomological material collected should be deposited with the Government." I find that the "Government" is the Govt. of Papua/New Guinea - the plant material to go to the Forest Herbarium at Lae (the only one in the country), the insects to the Dept. of Agriculture (which has an entomological staff).

Discussed permits with ______ Granger, in charge of conservation at Dept. of Agriculture. None required to collect plants, insects or mammals. A permit may be required for protected birds such as birds-of-paradise, but Granger is not thoroughly familiar with the laws and will advise later. Dept. of Agriculture will issue permits for export of collections at end of

expedition. Director of Agriculture "Larry" Dwyer agrees to wait for his share of the insects until the collections are worked up. Very keen to build up a reference collection. Former collection, which included many types or paratypes, was destroyed by the Japs at Rabaul during the war.

Dwyer a great ear-basher. Talked at length on schemes for growing kenaf and native fiber plants, wild food plants, native medicinal plants and general agricultural development in the country. Apparently a good man. Would like to send a man with us to look out for native economic plants and report on agricultural possibilities, but does not have a suitable person to spare.

Business with Bank of New South Wales in afternoon (East, Manager). Our first remittance has come through from New York. Exchange rate slightly over 2.25 dollars to the pound (equals about 9/- to the dollar). Called, by invitation, on E.J. Frame, manager of Burns Philp &Co. who offers every assistance.

Entered into the social whirl. Sponsored by Frame and Alan DeGroen as honorary member of the Papuan Club. Dinner with the Ryans. Other guests: De Groen (Head of Government stores); Osborne (Anglo-Persian Oil geologist), and their wives. Mrs. Ryan a sister of Jack Hides, one of the great explorers of pre-war days and auther of four books on Papua. All the party "b-4's" (before the war) residents. Considerable talk of the war as it affected Pt. Moresby, and the campaign of the Kokoda Trail. Japs made mostly "good" raids. Were selective in their bombing of the town. Evidently had good local intelligence. Picked for bombing civilian buildings occupied by Navy, etc. Half-castes were respected, gathered up and shipped to Daru, 300-400 miles to the west. A Jap submarine sank the ship on which the poor devils were being transported.

Friday 3/6/53: Whole day spent at Konedobu. Talked with C.E. Julius, anthropoligist in Dept. District Services & Native Affairs. No permit needed to collect articles of material culture. Permit will be granted to export collections. Julius a nervous young fellow, primarily interested in ethnology. Says that old stone mortars (if such they are) are often dug up in the Bulolo mining area, but did not have one to show. Pt. Moresby's little ethnological museum of former times was destroyed during the war.

Saw in office of ______ Morris, i/c Native Cooperatives, some fair-sized greyish tadpoles he has collected for British Museum. They occur in temporary rain pools in the Mekeo District and are said to develop from egg to adult in a few days.

Native cooperatives have been established since the war. Annual turnover about £ 250,000. Marketing primary products (chiefly copra) and selling manufactured goods and everything the natives want. Not popular with regular traders. But selling prices are maintained at ordinary trade levels.

Morris spoke of ancient stone monoliths standing at Kwato, near Samarai, and at Waga Waga in Milne Bay. Thought to be relics of a former population destroyed by a volcanic eruption.

Examined more patrol reports and culled some useful data on the country between the high mountains and the cost of Goodenough and Collingwood Bays.

Heavy showers last night and this afternoon have somewhat cooled the air. The heat, when the sun shines, seems to radiate from Pt. Moresby's rocky slopes (mostly greyish iron-stained schists of Eocene age).

Was interviewed by a Miss Jones (Saskatchewan), news gatherer for A.B.C. (Australian Broadcasting Commission). She told me of Stalin's death today.

Saturday 3/7/53. Finished examination of patrol reports at D.S. & N.A. office. Find that application for export of ethnological material at end of trip should be made to District Officer, Samarai.

Julius (anthropologist) tells me that the only stone monoliths he knows of are on the Trobriand Islands. This makes Morris' report of such stones at Kwato and Waga Waga more interesting.

Sunday 3/8/53: With Dwyer, Mrs. Dwyer and their small daughter Judy, was driven to the Govt. plant introduction gardens on the Laloki River by Willis. Good dirt road, crossing the river on a steel bridge. Station well equipped with tractors and farming machinery. Good alluvial soil along the river. Did not have a chance to see much of the plantings other than a considerable acreage of kenaf. The best plots were well-grown and 8-10 ft. tall. Much interest in the crop in Papua. A company recently floated to cultivate it on a 15,000 lease on Oro Bay on the north coast (capital £ 80,000).

Lunched with the Dwyers. John Womersby, arrived from Lae this morning, was there too. Tall, slender chap, moderately decisive, much interested in our work and in spending some time with us in the field. Would like to have his set of the herbarium collection before determinations are made.

Gave Dwyer most of the vegetable and flower seeds brought from New York. New strains of tomatoes, hybrid sweet corn, etc., etc.

A wild fiver plant he was much interested in on the bank of the Laloki looks to me like jute, probably naturalized.

Monday 3/9/53: Flew to Samarai on Quantas Sandringham 4-motor flying boat i/c Captain ____________. Take off 8:15 A.M., arrival 1:15 A.M. Weather clear and good view of coast and mountains. Mt. Suckling (11,337') and Goropu (ca. 12,000') look like prominences on the rim of a great volcanic crater, showing sheer faces of grey rock on its inner walls and much bare rock on the summit in general above about 10,000 ft. Our view was distant.

Knowing my interest in Mt. Dayman, the pilot took me up to the cockpit as we approached and altered his course to cross the range to the west of the peak (our altitude 7,700 ft.) and fly around it. A massive peak, dropping off very steeply to the east (grey rock like Suckling). Rather smooth, rocky, grassy and shrubby or scrubby; gradual summit slope to the south. A deep high valley with swampy, grassy bottom and a winding stream, on west side. Rising white clouds blotted out the north slopes and soon the summit, as we rounded the mountain and I saw very little of that side of it. Much good forest below the summit grass on Dayman, and south slopes, and summit of main range to the west, completely forested. Given as 9,800 ft. on the maps, but looking higher, it looks like a good mountain for us, although , unfortunately I could not see the approaches, or vegetation on the north side, which most likely would be the direction from which we would strike in to it from the coast. Kept a lookout for a lake reported high on the mountain but did not see it. However, one of the other passengers (______ Carmichael) made out the lake quite plainly, he says, on the grasslands of the summit. He could not say on which side of the mountain, but it could hardly have been on the

south or east, which I had plenty of time to examine in some detail.

To the east of Dayman, in what is probably the Gwoira country, there is an area of very steep jagged country almost completely deforested (by natives?). East again and southerly toward Mt. Simpson, the mountains under the main range appeared to be mainly forested. Most of this under cloud. Only the sharp summit of Simpson (9972') stuck out above the cloud field.

Samarai, on Little Dinner Island in China Strait, is a pleasant change from the starkness of Pt. Moresby. The island can be walked around in 20 minutes, I'm told. Big trees shade streets and yards away from the business section. Crotons, acalyphas, hibiscus, provide color. Trunks of the old shade trees often covered with ferns of various kinds, and with orchids growing on them (including great *Grammatophyllum* sp.). Rainfall is over 100 inches. Town water supply is rain caught in cisterns. I am staying in Bob Bunting's big, airy house, in company with ______ Webster, one of his employees. Fitful breezes stir the air and cool it somewhat.

"Dusty" Miller, manager of Bunting & Co. (wartime bomber pilot), tells me that Ken Wynn, our prospective transport man, will arrive from Milne Bay on the morning of the 11th.

Find that the local Collector of Customs (______ Kelly) will require full lists and costs statements for clearance of our cargo. This will mean a lot of work for me. Have invoices for only part of the cargo, cost records for some things. Will estimate value of the remainder. Have complete lists.

Tuesday 3/10/53: Most of day occupied in compiling a six-page list for Customs. Apparently no payment of duty is involved, but regulations must be followed. In my previous experience only a blanket clearance has been required for the belongings of a scientific expedition.

Called on A.D.O.Grove yesterday afternoon and learned that Pt. Moresby has given instructions for us to be helped to get carriers for the inland. Good news, but expected.

Yesterday, too, I met Clem Rich, ex-A.D.O. and one of the very few men who has climbed to the top of Goodenough Island (8,400 ft). Rich too drunk to talk sensibly; the same today. But says he made the ascent from Vivigan on the east coast and it was not difficult except the last 1000 ft.

In late afternoon went with Miller on his launch Kari for a run through islands about NE of Samarai. Few hamlets on islands and many coconuts along the shores.

An interesting visitor today was Dr. Bill Smythe, young Australian medico and anthropologist who is doing a depopulation survey on the west end of Ferguson Island. Says there has been no depopulation, though one or more communities (e.g. Dobu) have moved to localities offering better garden lands. Smythe will finish his work in July.

Wednesday 3/11/53: Cargo released by Customs and now in Bunting's godown ready to be unpacked.

District Commissioner W.J. Healy (who was Patrol Officer in charge of our escort on the Fly River in 1936) arrived back in Samarai from an inspection

tour this morning. His 50-ton vessel broke down and he had to be towed in about 100 miles by another vessel. He is much interested in our trop and will instruct his officer at Baniara to assist us.

Healy spoke of white pelicans which have appeared in Duperre' Lagoon (on the main barrier reef south of the Conflict Group), apparently carried there by a hurricane last year. Such birds were unknown there before. They are protected by law. He counted 31 on the lagoon a couple of days ago.

Heard more from Healy of a chain of observation posts which is being (or has been) established along the Dutch border. He calls them political observation posts to watch for Indonesian infiltration. They are manned by District Services officers and armed native constabulary. One is at Lake Murray, another at Oroville on the Upper Fly, and there are several along the border of the Trust Territory, on the Hollandia side of the Central Range. Australia regards very seriously the possibility of the Indonesians taking over western New Guinea from the Dutch.

Wynn arrived from Milne Bay late in the afternoon. We talked well into the night. Red-headed, open-faced, active man of 30-35. Has done a great deal of walking about in the mountains of the "East End" recruiting labor for plantations. Has been in the Bamu and Kikori areas in the west; crocodile shooting on Woodlark Island (the kill easy to recover in the clear waters of the reefs). For past two months has been running a small sawmill in Milne Bay. Have engaged him at £ 60 a month and keep.

Have learned at last the reason for the very hospitable and helpful attitude of A.H. Bunting Ltd. Good wartime relationships between Americans and Australians are still paying off. When Bunting returned to Papua in 1945 to gather up the wreckage of his property and re-establish his business, he was taken in and helped by Americans at the Milne Bay base. When Dusty Miller visited the U.S. as a bomber pilot during the war he was royally entertained by a family living at Oyster Bay, Long Island. Now Archbold Expeditions are the guests of the Bunting Company in Samarai. We not only have the use of Bunting's own house. Food and native servants are provided as well.

<u>Thursday 3/12/53</u>: Nine boys signed on as general laborers at one pound a month, plus food, clothing, tobacco, etc. Their contract is for 12 months. The boys were recruited two months ago for the China Straits Construction Coy., which is going out of business. After being paid off, they agreed to work for us. These proceedings and a medical inspection occupied most of the day. As we will be going into mountains above 4000 ft., the law required the issue of 3 blankets and 1 flannel shirt, in addition to articles ordinarily supplied. Will give the boys another flannel shirt before we leave the coast. They should have a change of warm clothing. Will also increase their wages, if they turn out well, as I expect they will. These are "Gosiago" boys from Ferguson Island (1 from Goodenough Id.), the New Guinea "fuzzy-wuzzies" of World War II. One of them was with us on the Fly River in 1936, although for some reason he did not go inland.

All we need now to complete personnel is a cook boy. The astronomical wage of £ 7 a month is being offered for this important job, but so far no taker is in view.

Dinner with the Healys. Beautiful view of China Strait through coconut palms and colorful plantings from the residency on top of the hill which forms one side of the island.

Healy spoke of investigations into water power potential which have been carried out by the "British aluminium people". He showed a party around last year, examining the rivers of the south coast as far west as the Turama. The Angabunga, flowing into the deep water port of Hall Sound, considered most suitable for a dam and big hydro plant. Site for the works would be on Yule Island. Bauxite ore would be brought from the Wessel Islands off the West Australian coast.

Friday 3/13/53: A sweaty day in Buntings bulk store godown uncrating the cargo and making a start on the organization of camp gear and my collecting equipment and supplies.

Samarai has been hot the past few days and sleeping in the raw, one does not often need a covering sheet at night. My newly unpacked thermometers read 32 degrees C. at 9 P.M. An odd shower falls most days and usually there are heavy showers between about midnight and 2 A.M.

Humid weather and dark nights would lead one to expect numerous nocturnal insects. But this is not the case. I have not seen a moth in Samarai, or a butterfly for that matter. Perhaps the distance from the mainland (2-3 miles) has something to do with it. Yet I'm told that now and then, not correlated with season, insects swarm at night on the island.

Saturday 3/14/53: Finished reorganizing my own gear and started on general gear and supplies. Another hot steamy day. Max. 32.5, min. 26.5 C.

Conference with Wynn in afternoon on order for foodstuffs and trade goods. Making up orders tonight.

In afternoon visited Ven. Archdeacon A.J. Thompson of the Anglican Mission, 30 years a missionary in this general area. A kindly old gentleman. The archdeaconry was destroyed during the war when the Japs were advancing this way, and Thompson is still in temporary quarters (not overly spick and span). The church still stands, though the scorched-earthers set fire to it three times.

Watched the finish of a cricket match between the Samarai whites and a native team from Kwato Mission (on another island on China Strait). The whites took a bad beating. The wonderfully quick eye of the native said to be responsible. Another factor, perhaps was the aftermath of a call yesterday of Burns Philp & Co.'s M.V. Bulolo, and a night-long party which followed it.

Capt. W. (Bill) Wilding of the Bulolo collects saltwater fishes every trip for the aquarium at Toronga Zoo in Sydney. Keeps them in tanks on his bridge. A Bluff sailor who tells off his passengers and fires broadsides in all directions.

At Samarai a species of fruit bat is noisy at night as it feeds on the big purple fruits of the Java Almond tree (Terminalia catappa).

Sunday 3/15/53: Temperature: max 32; min. 26 C. No rain today, last night or yesterday

3/15/53 (Cont'd) Miller, Mrs. Hall, and self went on launch "Bari" for a swim at Daka-daka Island, 2-3 miles east of Samarai. Nice small patch of rather steeply sloping white coral sand beach on west end of island; rest of shore rocky, fringed with coral reefs partly living and partly dead. Island of about 10 acres; 2 old native houses on west end. West end low and sandy, wooded with big Calophyllum inophyllum and other trees. Rest of island elevated in a steep forested ridge (mixed rain forest) about 150 ft. high. Forest seemed rich in species for a small island. One slender palm and 2 spp. Pandanus seen from boat. A low, broad megapode mound in shade of big trees on low west end of island; said to be now in use by laying birds.

Had engine trouble and made most of return trip under said and in tow of the dinghy (outboard motor).

Dinner Island, occupied by the town of Samarai, is said by Miller to have been named by Captain Cook of the "Endeavour", who lunched one day under a great Calophyllum tree on the south side of the island.

Paper work and writing letters.

Monday 3/16/53. Geoff and Van arrived on the flying boat from Port Moresby about 11 this morning, having arrived there yesterday from Brisbane about 11 AM Friday. Our party is now complete except for a native cook.

Had a bit of bad luck with two of the boys. Under new regulations which make it obligatory for all natives, they were X-rayed and given an injection test for T.B. last Friday. Two of them showed definite signs of the disease and we were obliged to pay them off. Even if government permitted, it would be unwise to take such boys into the mountains. Unfortunately, one of the two was Billy (Maiwobudi), our top hand - the boy who was with us in 1936-37. But luckily, two boys from Fergusson Island who wanted to sign on earlier, but for whom we had no place, were on hand to fill the gaps.

Good progress made by Geoff and Van in reorganizing their gear and supplies, and much sweat lost in the hot godown.

Tuesday 3/17/53. At last we have a cook. A Goodenough Islander named Gapodia Aboakera (or "Kim"); clean looking and reputedly good at his job, whom we have signed on at 5 pounds a month.

In the afternoon Healy had our boys lined up in his office and through an interpreter, gave them a little talk. This is new work and good work. He has been in the bush with us himself. They are going to country where there is plenty of food and game. The Gosiagos are good boys and good workers. He expected them to be that way. No humbug. No bad talk. He would be visiting us in the field in two or three weeks and he expected to find they were doind well.

Healy also, in my presence, had a radio talk with P/O Skewes of Baniara. In Skewes" opinion the best place for us to camp on the south coast of Cape Vogel Peninsula would be the govt. resthouse at Menapi. Good anchorage, and handy to Baniara Govt. Station. Frequent boats. Skewes instructed to see that the resthouse is in good condition; have boy's house seen to, and a fence made around the establishment. This special attention to our needs, and especially the erection of a fence, will impress the natives and establish us in high prestige.

Arrangements have been made for us to leave for Menapi on a boat named the "Govilon", operated by Burns Philp & Co. The vessel expected in from the Trobriands, and due to sail for Cape Vogel early Thursday morning. Yesterday I placed orders for 6 weeks stores. Our gear should be ready to load tomorrow.

Wednesday 3/18/53. Completed reorganization of cargo from U.S. The Govilon unloading cargo today, but it is doubtful if she will be sailing for several more days. A Bunting boat, the Jessie, due in tomorrow, and this may be our ship for Menapi - on Friday.

A man named Mason, in charge of the interests of an old Cape Vogel trader, Spiller, in today. Spiller, after many years on the coast and marriage to a native woman, has amassed a tidy pile and has gone home to England for a few months. Mason offers to transport us by boat from Menapi to Kewansasay, on the Collingwood Bay coast, for Ł20 (two day trip, there and back); A very reasonable price, negotiated by Miller of Buntings. Spiller has the reputation of being a slick trader. Mason a florid middle-aged man who finds it difficult to look one straight in the eye.

Last evening there was a cocktail party in the Bunting house (Russ Webster, host) to introduce us socially in Samarai. Twenty-one people present, most of them previous acquaintances. A lively crowd. Samarai is much like old, prewar New Guinea. Considerable drinking, mostly bottled beer and rum. Nowadays, of course, there is refrigeration in every household, and electric power.

Thursday 3/19/53. Our cargo was loaded on the Govilon this afternoon. We are to sail for Menapi at 6 in the morning. Our personal papers and valuables are deposited in the manager's private safe at Bunting's. The suits that we wore on the journey from the States have been sent to Brisband for dry cleaning; they will be returned to Samarai for storage by Russ Webster, our host at Bunting's house.

Met today an erratic, very commercial-minded man, Captain Ted Smith, who in 1948 transported our Cape York Expedition party from Cairns to Red Island Point, near Thursday Island. Smith has just returned from Australia with a small vessel for use in a native trading venture he began about 18 months ago on the eastern end of Cape Vogel Peninsula. Intends to open stores on Goodenough and Fergusson Islands. Is interested in the exploitation of bat guano deposits in caves on Cape Vogel. Talks a lot about it, apparently, and on that account is known as "Bat-shit Smith". Caves about 3 miles inland from the village of Dabora on the southern coast are not accessible enough to be of present commercial interest, he says. Another cave, about 1/2 mile from the coast at Tapio on the Collingwood Bay coast and at 600 ft. elevation, offers greater possibilities. Several entrances to this cave, but Smith has been in only one.

Smith offers to take us to the Dabora caves in his boat, without charge. For charter work he would ask "no more than ten pounds a day." A reasonable rate for a boat that would carry us and our cargo comfortably.

Friday 3/20/53. Sailed from Samarai for Menapi, Cape Vogel, on the Govilon at 7 A.M. We are 3 days ahead of schedule in taking the field. The ship is about a 55-footer, with Lister engine, a jib and a leg-o-mutton mainsail. Native skipper. Reputed to do about 5 knots but we had a slight nor-wester against us and a set of current practically all the way. Passed East Cape (ca. 32 miles) at 3 o'clock. Got to Wedau, where we tied up to a small wharf, at 1 A.M. Saturday. Our own cook feeds us on the boat. Until rain squalls came over in the middle of the afternoon, we were comfortable under a tarp rigged over the forward hatch. After that we crowded in the wheelhouse. The greatest discomfort was the lack of a privy on board.

Arrived at Wedau, we set up our camp cots under a partly starry sky on the wharf. By 3 o'clock we were driven aboard by rain and spent the rest of the night sitting up or stretched out in various nooks.

Saturday 3/21/53. Left Wedau at 7 A.M. and dropped anchor off Menapi about 3:30. Called in at Baniara Govt. station and went ashore there for a few minutes at ca. 2 o'clock. Cadet Patrol Officer Tony Skewes, i/c Baniara, came on with us to Menapi. Sort of showing the flag and intimating Govt. interest in our party. Slim dark-complexioned young fellow, with bristly hair and slightly stopped. Has the reputation of being an efficient young officer.

Arrived at Menapi, and being carried from dinghy to beach by natives, we were met by a white robed priest, and a lady modestly lipsticked and smoking a cigarette. The priest was Father Chisholm, i/c Anglican Mission; the lady Miss Kinnear, of the laity, and housekeeping for Chisholm until the return of a nun whose regular job it is.

Skewes, under instructions from Healy in Samarai, had had the village constable and villagers busy repairing the resthouse, building a house for our bots, a storehouse, and a latrine. Resthouse of two rooms about 12 x 14 ft., with 10 ft. breezeway between and a kitchen wing at the back. Thatch of sewn sago leaf; walls of sago leaf stems; floor of fplit palm trunks, raised about 4' 6" above the ground.

On call from Skewes several natives went out to help in bringing our cargo ashore. The call was for a big canoe, housed under a shed on the beach. What we got was several small outrigger canoes, one of which upset in the calm water, and lost for us a 70 lb. bag of sugar and a 50 of flour in 2 fathoms of water. Three of my 40 lb. bales of newspapers, for interleafing herbarium specimens, were more or less damaged by salt water. Luckily I have plenty of paper, and we have a reserve of flour and sugar.

After a while, Bill Mason (Trader Spiller's manager, whom we met in Samarai), came along, followed by a cook boy with three bottles of cold beer. Cargo was all ashore by 4 o'clock, when Miss Kinnear called in to say afternoon tea awaited us at the Mission, a couple of hundred yards easterly along the beach. There was homemade chocolate cake, too.

Sunday 3/22/53. First job of the day was allotting the boys for field work - three for me, two Geoff, three for Van. Ken has handed over his personal boy, David, to Van and takes as his 2 i/c 2 i/c for transport work one of the older and more responsible Gosiagos who goes by the name of Jimmy.

Boys getting poles for rigging a work fly; sticks for bush tables, etc. Camp in order by the middle of the afternoon.

The boys have agreed to work Sundays for an extra 5/- a week. This is important for us, who must work Sundays and every other day at collecting. The boys will of course have time off now and then. They are working cheerfully. This afternoon someone produced a football and they kicked it around, and into the sea, until the time came for them to eat.

Skewes, having stayed at the Mission, left in the afternoon. He will return Tuesday, when we will discuss plans for our future work in his area.

We have all managed to get in a little collecting. Van shot two Petaurus papuensis by jacklight last night. A village native shot, with his own gun, two flying foxes (Pteropus novohollandiae? and Dobsonia). Geoff has several small lizards, including a gecko which jumped from the dining table into my coffee this evening, and a bright green varanus-type lizard brought in by a native and bought for a stick of trade tobacco. I have a few mosses to start the plant collection.

Getting some idea of the local natives, and local values. The former, as is to be expected from long contact with a mission, seem somewhat sophisticated. Money appears plentiful with the high price for village copra. Several local natives have guns, and shoot off 12-gauge cartridges costing a shilling each at

Spiller's trade store. Prices for native services and produce are enormously inflated as compared with prewar levels. Paid today three sticks of tobacco for a small bunch of bananas which would have been worth one stick before the war. On the advice of Skewes we paid 40 sticks (cost price 23/4) for the erection of our storehouse. (The village is supposed to maintain a resthouse and boy's barracks, but a store is an extra.) Still, prices are not as high so far as we were led to expect from tales told in Samarai.

Monday 3/23/53. Collecting started in earnest today. My own morning in the field yielded 21 numbers of plants, mostly from primary rain forest, on the point of land across Menapi Bay to the east of camp.

The rain forest I examined is developed on a limestone ridge. A fairly hard-pitted limestone containing marine bivalves (sample collected), and elevated about 100 to 150 ft. The crest of massive blocks of rock separated by fissures and hollows, some of the latter narrow enough to hop over and perhaps 20 ft. deep. Where the top of the ridge widens in places, the forest has been cleared for gardens. The garden lands in various stages of regrowth, or planted to bananas, yams, cassava, pumpkins, corn, etc. Papayas common in young regrowths.

Several species of fairly large canopy trees in the forest, but the only one found fertile was a strangling fig (Ficus 21616). Four species of ferns, and Boea 21630 common on the rocks, rooting in pits or in accumulations of soil. An inferior type of rain forest.

Rain from the NW came over about 11 o'clock and for half an hour we sheltered under an overhang of limestone in the forest.

On call through the village policeman, one Patrick of Banapa, an old guide of Wynn's, reported this evening, carrying a doubtful looking Belgian shotgun, and declared himself willing to go on a reconnaissance of the northern approaches of Mt. Dayman. Pay 5/- a day and food.

Tuesday 3/24/53. No rain today or last night. The day somewhat cooled during the middle hours by a breeze from the SE. As long term temperature records are available for Baniara Govt. station, four miles to the west, I am not making temperature records here.

Van had no catch from over 100 traps set last night. But later in the day the boys brought in 7 small bats they had caught in holes in coconut palms and forest trees (Pipistrellus?).

Geoff had a good catch of butterflies and other insects, a goanna, several skinks, etc. Contributions from the botany dept. included a pretty blue damselfly, 2 spp. of freshwater mollusks, and a small fish from a small stream in rain forest. The fish fairly plentiful in the stream, but darts from cover to cover under stones and leaves on the bottom, and is hard to catch with hands alone (No 1).

Collected 19 numbers of plants in the relic primary rain forest of the small stream from which we draw our water, directly behind camp. Stream bed rises rather quickly over steps of rock (not limestone), has a stony bottom containing small pools with trickles running between them, and narrows from about 20 to 10 ft. at 50 m. alt., which was as far as I followed it. Primary

forest replaced by old gardens and second growths at my upper limit.

Geoff having a little trouble teaching his boys to shoot. After two days instruction, he reports both can now hit a coconut floating in water. All the boys very keen to learn the use of a gun. Only one seems to have had previous experience.

Wednesday 3/25/53. A hot day; wind again from the NW; temperature in the rest-house veranda late in the afternoon 86 F.

Considerable additions to the butterfly collection today. My boys captured three crayfish, about 6-8 cm long, in rocky pools of the camp water supply gully. Traps yielded the first rat (a Rattus). Van's boys brought in 15 more small bats caught in hollows in trees, and last night he shot a male brown Phalanger (P. orientalis group).

Had as guest last night Tony Skewes who brought with him official interpreter Diwowon and A.C. Cecil Rogegea for discussions on Mt Dayman, known to the natives as Maneau. Diwowon is a native of Bonenau Village on the SE slopes of Maneau. He spoke in Motu which the policeman translated into English. Skewes knows little Motu. The information obtained was checked by Wynn, who speaks Motu very well.

A native track passes over the mountain from Biniguni resthouse Village to BibitanNo. 2 village on the lower eastern slopes. This track follows Tanamginum spur ridge from Biniguni. All-men parties reach the edge of the summit grasslands at "5 o'clock." Mixed groups camp enroute. Top of mountain reached "8 or 10 o'clock" from the 5 o'clock camp. The journey is made at any time of year. The top camp is called Imanah. Two lakes on grasslands on summit, the larger one called Gavaio. Bandicoots are the only game on the grasslands of the top. Wallabies, cuscus, bandicoots and cassowaries in the upper forests. Houses for night camps are made of bark and grass. Path zigzags on the spur to avoid obstacles and is "half steep". There is a cave near Maneau Village at the northern foot of the mountain, and between there and Biniguni Village there is what would seem to be a sulphur spring, near a waterfall.

The information obtained tallies well with the report of ~~the~~ Guise & Armit, who made the first ascent of the mountain by Europeans in 1894. However, Guise and Armit reported wallabies plentiful on the summit grasslands. When the route was opened up, their carriers could reach their top camp at four in the afternoon. So far as I can make out, the G&E top camp was at the lower edge of the summit grasslands.

Maneao looks practical enough for us, provided we can muster enough carriers. Forest limit could probably be reached in 2 days from Biniguni with laden carriers.

After Maneao, talk turned to cargo cult and related developments in Papua, prewar and postwar. A year or two after the war the natives of Goodenough Bay and Cape Vogel (or some of them) banded together to set up their own government and defy existing authority. Headquarters were at Wedau, a village beside the Anglican Mission headquarters at Dagura. The organization was called Wedau Development Company. The leader was an ex-government clerk who had been fired for embezzlement of native tax monies. Between three and four thousand pounds in cash was collected from native "shareholders." The situation was mishandled by

a weak government and inexperienced local officers. When finally the ring was broken, sufficient money was recovered to repay the shareholders 13/- in the pound.

In the great Purari Delta village of Kaimauri, at about the same time, the Parari Sago Manufacturing Company Proprietary Limited was set up by another rogue named Tommy Kobo. In defying the government, two district services officers and their police were chased out of the village. All contacts with white traders and recruiters were cut off. As at Wedau, cargo cult entered into the picture. As a beginning, all trade was taken into native hands. Large quantities of sago were made and a boat bought to transport it to Hanuabada Village (at Port Moresby). Much sago was sold, but no proceeds reached the shareholders. I am not clear as to what happened to Kobo. At any rate, he served during the war as mess boy on an American small ship. On calls to Australia, the commander of the ship would take him into his house as a guest. Kobo had had some sort of education. Typed his company business letters in broken English.

By a coincidence, one of my boys asked me today when the Americans would arrive to join our party. Later it developed that five more Americans were expected. The inference is that somehow in the native mind we are connected with cargo cult. In the postwar version of this, Americans are supposed to be the people who will bring all sorts of manufactured goods and give them away to the native population. The war left the impression that Americans were a sort touch.

Thursday 3/26/53. Variable wind(or breeze) mostly from the SE, and the day slightly cooler.

Set out northwest and north to find the track leading toward Mukawa on the north coast. I want to find out how far inland the natural savannas are situated. Missed a turnoff on the path I followed from the head of Menapi Bay and ended up in sago swamps and native gardens. Collected there, then turned back and found the track I had been looking for. Followed it half a mile or so north, through good rain forest in a small valley, then onto Imperata grassland among forest patches. Met on the way an old native and two young women, laden with copra in string bags. The old man knew Motu and confirmed the identity of the path.

Natives who own any number of coconut trees are busy making copra. The trade stores are paying the high price of threepence a pound for it. Some of the coastal villages have small community plantations of coconuts.

Am averaging 20 collection numbers of plants a day - as many as I can handle. The most interesting today were giant sedge Mapania 21679, gregarious on the banks of a shadowed stream in rain forest, and several mosses from the rotting trunks of old sago palms in the swamps and from the rain forest.

A new species for the mammal collection was a bandicoot (Echymipera) trapped in a grass patch.

Late in the day we had a welcome surprise. A party of natives from the mountains with English potatoes to sell. About 100 pounds in all, which we bought for cash at the ruling rate of sixpence a pound. The natives had walked from Ikara Village at the foot of Mt. Simpson, 6 or 7 days away. No potatoes were to be had in Samarai when we laid in our stores and we have been using rice as a substitute. Not much native food is to be had in this area. Bananas are

the principal food crop, but the gardens are small, and we have been able to buy only one small bunch. The natives sell quite a lot of copra to the local trade store and with the proceeds buy rice and ship's biscuits to take the place of the better food they ought to grow.

Friday 3/27/53. Camp astir at 5:30 to get Wynn started on reconnaissance of Mt. Dayman and its approaches. He was to leave at 6 o'clock on the local trader's (Spiller's) boat "Ruru," but the trade station was dead at that hour. Faint action toward 7 when boys began loading two crates of chickens and sundry rolls of old wire netting for Mukawa Mission along the coast. Boat finally left about 8:15. Typical New Guinea fashion. The Ruru is a 35-foot auxilliary ketch, skippered by a native named Lawrence, and carries four tons of copra. She is on a trading trip to Medino, on the north coast of the Peninsula, and will drop Wynn there. He has with him our Gosiago boss boy, Jimmy, and a local native named Patrick. Have arranged for the Ruru to pick him up at Medino two weeks from today.

A tremendous fall of rain last night, beginning about 11 o'clock. Much thunder but no lightning. The first rain in several days. It came from the NW.

Botanized along the coast about 2 miles in the direction of Baniara. The Okawabero River, about 1¼ miles from camp, running high and turbid. Stream 40-50 yards wide, crossed on a good light suspension bridge. Steel cables; woven rattan decking. River enters the sea in a small delta with muddy flats carrying a mangrove forest of Avicennia sp. (sterile and not collected). Mostly mangrove and strand plants collected. The most interesting, an asclepiadaceous shrub (21707), gregarious in thickets and very fleshy, which I have not seen before.

Saturday 3/28/53. Much thunder through last night, and several hours of steady light rain between midnight and daylight. Breeze today SE to SW.

A combination of circumstances kept me in camp today. Wrenched my back yesterday when, preparing specimens, I stepped in a twisted position on a weak slat in the split palm floor of the resthouse. Mails which arrived yesterday needed attention.

Quite a mail from official circles in Papua/New Guinea. Womersley, Forest Botanist, wrote that he and Dr. Hoogland (Systematic Botanist, CSIRO), expected to arrive Samarai on April 27 and join our party by first available boat. Our plans call for a start toward the mountains on May 4. The standing arrangement was for Hoogland to spend about a fortnight with us on Cape Vogel to observe botanical field methods, and for Womersley to join us for part of the time in the mountains. We cannot take two extra men into the mountains. Sent a boy to Baniara with a radiogram for Womersley, and a letter explaining the situation in detail. This should not have been necessary. Womersley knew it all from our discussions in Port Moresby.

A communication more difficult to handle was a letter from the Government Secretary (Lonergan), making requests for splits in our collections which were not mentioned in preliminary official "notes" or in my conferences in Port Moresby. Dwyer, Dept. of Agriculture, now wants a second set of the insect duplicates ("unnamed types") "left in the Territory for use while waiting for the named collection." Julius, Govt. Anthropologist, who is charged with the establishment of a museum in Port Moresby, and who wanted nothing before, now

wishes to have "duplicates of any fauna and Ethynological specimens you collect." The additional demand for insects is ill-considered, and both demands are unreasonable at this stage, although we did expect so hand over a share of the animals other than insects. Have drafted a letter objecting to the requests for ethnological objects and additional insects, asking more information on "Fauna."

Sent my other two boys out to collect and was agreeably surprised with the results. About a dozen species not previously collected (only two that had been), and all reasonably well selected and handled. The Gosiagos are quiet little fellows, but they keep their eyes open and learn quickly.

Dinner was about ready this evening when Father Chisholm and Miss Kinnear of the Mission dropped in. On growing acquaintance, Chisholm seems less than manly. Came close to shrieking when Van fired a shot at a bat. Has that curious tight-buttocked walk, and other characteristics which suggest inclinations far from churchly.

Sunday 3/29/53. Dull, with sporadic drizzles. No sight of the sun all day. Sultry, nevertheless. What breeze there was came from the SE.

Confined to camp again today. Sent the boys into the field, with poor results this time. They need more training.

Monday 3/30/53. Steady rain through much of the night after about 12 o'clock. Day completely overcast with occasional showers. From early afternoon, into night, a half gale from the east. The second day of what is probably a cyclonic disturbance.

Did some mild field work in old garden lands and the edge of the rain forest near camp. Nothing of special interest. Nothing in the traps. This is bad weather for Van. No insects tonight, and very few bats. He has equipped the boys with switches made with the midribs of sago palm pinnules.

Bishop strong of New Guinea came along in a boat toward midday and spent a couple of hours at the Mission. Departed in the direction of Dagura and Samarai without he or Chisholm letting us know whether or not we could send mails by his boat. As they say in New Guinea, missionaries are another kind.

Tuesday 3/31/53. The blow of yesterday continued through the dark hours until after 5 this morning. A beautiful, clear day with breeze from the SE. The mountains south of Goodenough Bay looked very close this morning. About 10 o'clock I had a view of Mt. Simpson. A very high waterfall in a central position on its slopes about 3000 feet below the summit. Grass on top and extending down a western spur for perhaps 2000 feet. Other grass in patches on spurs at perhaps 4000-5000 feet elevation.

Spent 4 hours in an examination of a patch of round about 100 acres of primary, or old-stage secondary, rain forest on the point of land west of Menapi Village. Ground mostly too wet for gardens at this time of year, so probably the forest is primary. A sticky greyish soil containing great quantities of fragmented coral and elevated very little above the todes. Forest about 100 ft. tall, with fairly complete canopy, and easy to walk through. Most abundant tree is 21768 (familiar, but can't name it now), with which is associated a Terminalia (T.catappa?), Pometia sp.?, Glochidion 21770. (As in

all the rain forest I have examined in this area, most of the plants are wi flowers or fruits.) A plentiful substage layer is formed by the slump palm, Cyrtostachys? 21769, and a slender Pandanus. Two large aroids, one with entire leaves, the other with leaves perforated as in Monstera, abound as root-climbers on tree trunks to a height of 20 ft. or more. A moss (   ) sometimes makes green patches on the bases of the trees. There is no ground cover, herbaceous or woody.

Today we have tomatoes, bought from a native. Misshapen things at most 2 inches in diameter, and without much flavor, but still good fresh food. We have pineapples and papayas in camp, and at other times have had bananas and sweet potatoes, to say nothing of the big lot of English potatoes brought in by mountain people a few days. The boys have had cooking bananas for a few meals, and we buy, at 2d. a piece, a dozen coconuts a a week for them. They pick up odds and ends of fresh food on their own account. The boys are putting on condition, and their skin is beginning to shine. They will need to be in good shape for the mountain work ahead.

Only two cases on sick parade so far. Losima, the No. 2 cook, has an ulcerated shin which is cleaning up nicely with applications of sulfanilimide powder, plastered over to keep the flies away. Yesterday Van reported one of his boys sick with malaria. Examination showed a swelling in the left groin, sympathetic with what appears to be a stone bruise under the ball of his big toe. Today, after resting yesterday, and soaking in hot water, he is getting around well enough.

We Europeans are taking preventive, or suppressive, doses of aralen 2 x 25 gr. tabs thrice weekly. This on the recommendation of Dr. Berkovitz of New York. The makers recommend 2 tabs weekly. Dr. Bill Smythe, chief medical officer for the Milne Bay Division recommends 4 tabs a week. So far the 6-tab dosage has produced no side effects. I have been on the routine since mid-February.

Wednesday 4/1/53. Another fine day. Breeze from the SE, continuing into the night. Temperature this morning at 6, 76 F - the lowest observed here.

Collected east along to the coast to a village on the edge of a mangrove creek about 1½ miles from Menapi. Got as much stuff as I could handle from beach and mangrove communities and rain forest close to the sea. Vegetation there relatively undisturbed on immediate coastal fringe. Tall forest of Barringtonia, Cerbera, Hernandia, Terminalia, and Erythrina. The latter the largest tree, fully 30 m tall at times, and a meter or more through the trunk. Beach fringing low trees largely Pemphis and Scaevola. Dolichandrone plentiful in inner mangroves, where Stenochlaena is massed on tree trunks, and scrambling Caesalpinia nuga scents the air.

Geoff's boys specialized in dragonflies and had a good catch in the vicinity or sago swamps on the Mukawa trail, where there are permanent pools in a small creek. Van, after a couple of lean days, picked up with 8 rodents trapped in primary rain forest - a new lot of sets on the Mukawa trail (Rattus sp. (spiny hair), Melomys, and what seems to be a Pogonomys). Last night he found a fig tree at which small bats were feeding - nibbling the outer parts of the fruits. Fired some shots, but could not pick up anything. Today while rigging a net beside the tree he heard the bozz of blowflies and, investigating, found a pygmy fruit bat (Macroglossus or Sychonicteres) he had shot. The cook

boy, out for a stroll after lunch, spotted a brown cus cus in a high tree in the forest. Tree climed by the No. 2 cook. Animal ran down to the ground, and was caught alive. A second brown cuscus caught by one of Van's collecting boys, also by climbing a tree. An excellent day for mammals.

An Anglican Mission vessel, the McLaren King, dropped anchor in Menapi Bay at 6 PM and will be leaving early in the morning, taking mails.

A radiogram from Womersley advising that he and Hoogland expect to arrive Samarai on the 13th. They will arrange with the District Commissioner for boat transportation. I expect them here about the 15th. Womersley asked if Forest Officer Hart would be acceptable to accompany us to the mountains. Have never heard of Hart, but radioed a welcome for him to join us.

Thursday 4/2/53. Fine again, until mid-afternoon, after which there were occasional showers till dark. Wind SE.

A long morning of 5½ hours in the field. Followed the Baniara track to the mangroves at mouth of the Okawabero River, thence up the river a mile or more. Except for strips of sago swamp in wet hollows, the river lands have all been cleared for gardens at some time and present vegetation is about 50/50 regrowth forest and Imperata grassland. Some fine banana gardens on the alluvial land, mostly on ground which was flooded by the river by the heavy rains of last week. Yams and sweet potatoes planted in gardens on dry ground. A little manioc. No European vegetables seen.

Finding collecting poor along the river, I took to the hills and headed back in the direction of camp. In a very steep rain forested gully on the Okawabero fall, collected Garcinia 21798 and Myristica 21808, both tall canopy trees. Noteworthy plants on the Menapi fall were Anonaceae with very large pinkish cauliflorous flowers smelling like rotten bananas (No. 21801), and a splendid fan palm (21809) which may be a Livistona. In country traversed the ridge crests were occupied by secondary Imperata grasslands, the gullies (too steep to cultivate) by primary rain forest. Highest altitude reached was about 400 ft. Highest hill in the area is 500 feet, according to the 1-mile map.

Friday 4/3/53. Good Friday, and a holiday except for the usual running of trap lines and drying of plants. Strong SE breeze all day and continuing late into the night. When we arrived here the sea was always flat calm in early morning and seldom got choppy during the day. Now, day and night, there is the noise of about foot-high waves breaking on the beach. The shore is protected by a fringing coral reef. Outside, white-caps run during the day.

Feeling good about the holiday, our boys, in their usual carefree way, were cutting loose in their house this morning, singing some pagan song to the accompaniment of hissing, and drum beats on the bottom of a cooking pot, when Father Chisholm, in white habit and black cap, came along from the mission to protest. For his sect, this is a day of fasting and silence - they don't even speak to each other - and the Gosiago noises were disturbing and irreverent. Spoke to the boys and they kept quiet for the rest of the day, even after 4 o'clock, when the Fast and Silence ended and Chisholm advised us to that effect.

Mason the trader had dinner with us in the evening and I arranged with him for boat transport to Dabora for Van and I on Tuesday. We will make a sub-camp there to examine the grasslands and bat caves.

Saturday 4/4/53. Weather as yesterday, but the southeaster died down before dark. These are good days for field work. The paths are dry. Visibility is good in the forests. There is a definite diminution in the flow of the small streams in the past week. Probably there is little surface water in the rain firest gullies, or anywhere else in the hills, during the season of SE breezes.

Botanized in the extensive gully rain forests about $1\frac{1}{2}$ miles N. of here on the Mukawa trail. Results hardly up to expectations. A fairly good representattion of tree species in the upper layers, but undergrowth and ground plants few in species. More than 50% of the rain forest plants are sterile. Local natives say that the flowering time is in the wet season. More than half the rain forest species I have collected are in fruit alone.

In big canopy trees, which are always good to come by, I have today cauliflorus Ficus 21814, Terminalia 21815, Myristica 21821, and Elaeocarpus 21826.

Gave my three boys their first tryout at firing practice. None is a marksman as yet, although one likes to show off, doing military motions with a gun. Permits are required for shooting boys. Those we wish to carry firearms must be licensed.

Peter O'Sullivan and Tony Skews, carrying knapsacks, walked up from Baniara this afternoon to spend the night at the mission. They were with us at sundown. O'Sullivan took command at Baniary last week. He and Skewes going on patrol through the back country in about a fortnight. Offers to do anything he can for us "big or small." For a start, he has offered us ~~the~~ use of Interpreter Diwowon, the man who gave us the good information on Maneau March 24.

Sunday 4/5/53. Part of the day spent with Geoff, working on an order for two months supplies for the beginning of the Maneau phase of the trip. A boat, the "Betty Ann," arrived during the afternoon with mails from Samarai. Letters from home, and a copy of Tom Gilliard's splendidly illustrated article "New Guinea Rare Birds and Stone Age Men," published in the National Geographic for April.

The Betty Ann is here to load 300 bags of copra and is expected to leave for Samarai before tomorrow night. A chance to get mails away.

Monday 4/6/53: The fine southeasterly weather of the past several days continue. Cloudier than usual, as if preparing the shower. Mammal specimens are drying well on a rack up under the roof of the rest house.

Botanized along the foreshore of Menapi Bay as far as the tip of a point of land to the east which shelters the anchorage from the southeast wind and sea. Foreshore of rough dead coral reef, sometimes masked by small sandy beach. A hamlet of about 5 houses on the point of land, where there is a steep sandy beach and a canoe landing.

Small clumps of low Rhizophoramangrove occupy slightly raised patches of coral close off shore. The beach in places screened by a line of Avicennia and Sonneratiarooting on the coral a few yards out. Narrow low sand dunes behind the actual beach carry a forest largely of Thespesia, 30-40 ft. high. Excoecaria, feared by the boys because of its caustic latex, scrambling Bauhinia binata, Clerodendron inerme, are mangrove-strand forest transition species. Acrostichum aureum white-flowered Acanthus, and Derris sp. are mangrove salt marsh transition elements.

Easter winding up with the celebrations at the mission this afternoon and evening. When Geoff and I walked up at about 5 oclock to view the proceedings two female teams of eleven were playing soccer, and 16 men were dancing under some mango trees. Perhaps a hundred onlookers of all ages, including Father Chisholm. Dressed in multicolored and very voluminous grass skirts, and in a £ few cases a bandana around their upper parts, the girls did some pretty fair punting and occasionally got to pushing, and kicking the ball off field. The men doing the usual New Guinea shuffle and prance, in double file, moving, in one direction, or split in equal eights and facing each other. All the men carried and thumped on hour-glass drums. Some fairly elaborate headresses, the biggest shaped like an expanded fan, some mere tufts of white cockatoo feathers The fan shaped head gear of one man was topped with a red bird-of-paradise plume. The only other feathers noted were several tail switches of cassowary plumes. Shredded pale green young coconut leaves hung from waists and arms. All were dressed in tapa loincloths. These mostly decorated with designs in brown (real New Guinea), but one colored partly purple in front with store dye. Other white man's materials were bunches of shredded white paper which most men wore at waist and threaded through braided armbands. One man sported a figured paper napkin stuck into his armband. Another had a five-celled, nickle-plated electric torch in his belt. Several of the older dancers appeared to be under the influence of betel nut. Their teeth were blacked from habitual betel chewing. The younger men flashed white teeth. Only one man, a tall fellow who carried the flashlight, had the frizzy mop of hair which unsophisticated natives of the East End affect; the others had trims about halfway between native and conventional European. The whole crowd looked healthy and well fed and I saw no sores or skin disease.

At five-thirty the dance stopped and the soccer game broke up. A man in a loincloth tolled a bell hanging under the trees, the dancers moved in double file toward the thatch church, outside of which stood a white-draped table with two candles flanking a cross, and Geoff and I departed. Tonight there are slow drum beats, and singing. The weather has become squally, and just now one of the head-dressed dancers passed the resthouse on his way home.

Tuesday 4/7/53: The strong southeaster blew all last night and until about nine this morning.
This was fortunate for our landing on the rather exposed coast of Dabora, about six miles east of Menapi Van and I with our seven boys, and the #2 cook, Losima, left on the "Ruru" at 1:20 P.M. Anchored opposite the Government rest house at Dabora 2:30. Native skipper Lambert took the vessel close in to the fringing reef. We landed by dinghy in calm water on the one narrow bit of sand beach, clear of coral.

Resthouse and boys barracks well built of sago thatch, sago midribbed walls and split palm floor raised about four feet above the ground. But there are many chinks in the thatch. The small house has a seat but the pit is only a foot deep. Water supply is from a shallow water hole dug in coral about eighty yards back from the beach on the edge of a mangrove creek. A low wall around the water would not keep pigs out. Every sizable village is supposed to maintain a resthouse. This one is badly neglected. My general impression is that Government is not very active on Cape Vogel.

Village Constable Oswin (!) dressed in blue serge ramie presented himself about 6 oclock in company with a genial but sharp looking elderly native called Timothy, whom we saw at Menapi. Timothy works for the Mission, he says, and speaks fair english. Oswin said not a word when addressed in english. Then Moto, a quiet thoughtful looking middle-aged man of heavy semitic countenance, who reminded me of Einstein.

Timothy and Oswin, and "all the people" will guide us to the bat caves at Tapitapipi tomorrow morning. Caves full of big bats. They kill 300 of them for meat a week or two ago. When camp was settled I took a boy and walked west about a mile to Neara Point, promontory of honey-combed lime stone cliffed to the sea. Cliffs 20 to 30 feet high, and from them a rough limestone ridge rises inland. Collected six spp. in poor low rain forest on the limestone.

Wednesday 4/8/53: Strong S.E. blew all last night and today it is still blowing It comes into every corner of the resthouse - through walls and floor, and over the partition which makes two rooms of the place. Difficult to handle plants, and to write notes. And if it keeps up until Saturday, when the "Ruru" is due to pick us up we will have trouble in getting away from this place.

With a native guide called Douglas, I hied me early to the bat caves at Tapitapipi, a walk of exactly one hour from the resthouse by the indirect route which for some reason, we followed, traversing flat land carrying grassland, (Emperata), rain forest second growths, and some big banana gardens, we crossed Okobobarina stream in ten minutes, and much larger Didi stream in twenty minutes: both running clear water. In forty minutes we finished about a 200 ft. climb up a limestone scarp after which the topography was gently ridgey. The caves in primary rain forest, which extended from the top of the scarp. Did much hunting in these forests for 16 specimens of plants. Trees mostly sterile or in fruit.

What appears to be the main entrance to the caves, ~~80x100xft.~~ is under an overhanging cliff perhaps 80-100 ft. high, facing approximately west. Two entrances at different levels, one above the other. A gully stream now dry, disappears into the lower opening, which is 6-8 ft. high. Upper opening more in the nature of a crevice, spanning which were some rotten looking poles which someone had used as a bridge to enter the level. A third entrance 6 ft. from the bottom of a small sink hole back about 50 yds. from the rim of the cliff.

Van, who was skinning trapped rats when I left camp, was to have met me at the caves. When he did not turn up by eleven oclock I went in alone, with one of my boys, (sink hole entrance). Finding the cave roomy and with good floor I went back to cut switches for a bat hunt, in which another of my boys and the guide took part. About fifty yards in, the cave forked. Took right hand branch and in about 20 yards came to a chamber about 30 ft. across and 20 ft. high which fairly swirled with small bats. Got fifteen of four species. Floor of which cave at least several inches deep with guano, some of it wet and soft.

Was followed to the cave by two natives, who later were joined by other men and two women. Their objective was meat. Asked them to keep out until Van arrived so as not to disturb the bats, but while I was plant hunting they entered with flashlights. Did not see their bag of big <u>Dobsonias</u>. It must have been ample for my boys came into possession of six bundled up in palm leaves.

Met Van on my way back to camp. His bag from the cave, and mine, numbered 74 of 8 species, including a large and a small species of <u>Dobsonia</u>. Tapitapipi is evidently a well developed system of caves. The lower entrance under the cliff takes the catchment of a fair sized drainage basin. Someone, (Brutwell or Atkinson) reported having gone two miles into the caves, then turning back on account of bad air. (Along way to go under ground!). Brutwell and a Czecko-slovakian D.P. doctor named entered by the sink hole last year. Doubt if the guano I saw would be of commercial interest.

From the cave I had local natives point in the direction of several mapped points, and got these compass bearings: Dabora 190 degrees; Dabora Mission 165 degrees; Banapa 203 degrees; Mukawa 320 degrees. The Dabora bearing checks with one in the opposite direction given by a native yesterday. I have not yet plotted the bearings on the map.

Thursday 4/9/53: SE wind more moderate today. Freshening tonight. Not a sprinkle of rain since we have been here.

Spent five and three quarters waterless hours in the field, on a visit to the savannas on the tip of the peninsula. Followed the Government track to within sight of, and about a mile from, Wabubu village. Deducting short halts the distance one hour to edge of the savanna, and I travelled about half hour beyond. Distance on the map about four miles to my farthest point. The 1-mile map very inaccurate. Shows only one of four or five cliffed limestone promintories abutting on the sea; form line altitude can perhaps be doubled for the country I was on at the end of the peninsula. (Ken Wynn has my aneroid on Maneau).

The savannas on limestone sloping gently to the east. Topography undulating. Surface rough and pitted. Hard to walk over, especially on unburned ground, where sharp jags of rock, left by solution, are hidden in the grass. Soil in the solution pits a chocolately red or brown and fertile-appearing. A dense cover of bunch grasses is dominated by *Heteropogon contortus*, *Themeda* 21873 and *Andropogon* 21874, generally about waist high. Very little *Imperata*. Savannas dotted with small patches and mere clumps of inferior low timber growth of rain forest type. Scattered trees, where they occur, are of the same species, (See field catalogue).

The savannas, or grasslands, are puzzling. Think they may be a secondary condition following cultivation long ago. No sign of former cultivation, such as stones piled into walls or heaps. Isaw no loose stone anyhow. The grassland flora is poor. Only six species of grasses seen. Few associated herbs. No true grassland shrubs. No grassland trees, unless *Albizzia procera* can be regarded as such. Grasses beginning to ripen seeds. *Heteropogon* already shedding its"spears". Patches burned along the trail. Boys surprised two wallabies (brown, they said) sheltering in a forest clump. I heard them thump away through the grass. Many bandicoot rootings in the grass.

Tonight Van still pinning out yesterday's bats which are b being kept as dried skins. A male spotted xxxxx cuscus - the biggest and palest I have seen - shot by his boy David today. Tonight, David, accompanied by other boys, including the cook, shot pale brown and dark brown cuscus, and the female and a young male of the spotted species. The female, *maculatus* is a pale buffy yellow!

Friday, 4/10/53: About nineoclock when I was busy with the preparation of yesterday's plants, and Van with his cuscus, the "Ruru" hove in sight from the direction of Cape Vogel, a day ahead of time. Fortunately, the SE wind moderated last night and the skipper agreed to anchor off the rest-house until the middle of the afternoon. This allowed me to botanise for a couple of hours in the rain forests of limestone ridges close behind camp. The most interesting plant *Pandanus* (21906) remarkable in that radiating long green leaves persist from the base to the apex of the single straight stem. Perhaps a new specie. Have seen nothing like it before.

Ken Wynn was on the "Ruru", having boarded her at Medino Village. He went right to the top of Mount Dayman in about 14 hours including spells. First day, Binigumi (130 m.) to 1450 m. in 7 hours. Second day to 2150 m. From No. 2 camp the summit (2785 m or 9137 ft.) was

reached in two hours and twenty minutes. A bark hut 12 x 14 feet built at No. 2 camp. An 18 x 18 nylon fly left in a swagbag hanging in the hut. Returned from No. 2 camp to Binigumi in one day of 6 hrs. Altitudes are by aneroid. Height of Dayman is given as 9305 ft. on old maps; 9800 ft. on maps published World War 2.

Ken's number 2 camp would appear an excellent spot from which to work the upper forests and the summit grasslands. His No. 1 camp in mossy forest, and perhaps suitable for a collecting camp for that zone. Another collecting camp probably should be made at or about a native bush hut at 570 m. on the trail. Below that to the creek near Binigumi are old garden areas. (Native population was moved down to the foot of the mountain by Government some years ago).

The report on the mountain is very encouraging. The ascent is fairly steep most of the way, and considerably overgrown by underbrush. The latter condition can be improved. Carriers willbe able to reach No. 2 Camp in two days, Ken believes enough carriers will be available from the Binigumi villages. Taro and other native food plentiful there.

Saturday 4/11/53: Only a slight SE wind today; weather partly overcast. Thunder to north mid-afternoon.

Most of day spent on ~~xxxxx~~ plant collections from the Dabora area. My materials on that trip were preserved in formalin, and have to be dried.

Plant specimens brought from the summit of Dayman by Ken (between the pages of a Sat. Evening Post) indicate a flora definitely alpine. They include; *Styphelia*, *Coprosma*, a shrubby *Hypericum*, *Tetramolopium*, *Potentilla*, *Euphrasia*, and a *Gahnia*, which I found on Mt. Albert Edward in 1933 and on the snow mountains in 1938.

For all I know to the contrary, and I have searched the records, Ken was the first white man to climb Mt. Dayman. Guise and Armit did not reach the top in 1894. Ken had a story from the natives that Atkinson, who is supposed to have made the ascent in the 20s., had trouble with his police and carriers, and did not get very high.

Ken brought back a report that the talk at Baiawa and Medino villages is that a ship load of Americans has landed at Baniara and a warship, carrying another contingent is expected soon. Another indication that we are being connected with Cargo Cult. This will be reported to P/O O'Sulliwan at Baniara. This thing should be watched.

Sunday 4/12/53: Ken, Geoff and I, on a visit to Baniara Government station to discuss Mt. Dayman with P/O O'Sullivan.

Walked the four miles to a canoe landing opposite the island on which Baniara is situated. O'Sullivan had invited us down today, but no canoe awaited us. A boy I brought along lit a smoke signal and made a flag of his red lava lava. No response. Then a small canoe turned up and Ken went across the 3/4 mile strait to send a bigger canoe for Geoff and me. The morning began overcast, and by that time light rain was falling. Half an hour later, or 1½ hours after our arrival at the landing, five hospital boys came across from Baniara to spear fish in the mangroves. They offered their canoe, and with one of them and my boy paddling, set out in pouring rain to make the crossing. A fresh southeaster blowing, and quite a chop in the strait. The canoe old and rotten, and the outrigger so waterlogged that instead of its acting as a stabilizer, we had to sit on the far edge of the canoe platform to balance it as a counter weight. When almost across, we were met by a fine big Government canoe manned by a policeman and a couple of prisoners. Ken's canoe man, it turned out, was a prisoner doing four years for the murder of his wife. He was over on the mainland to do some fishing. Prison life is not hard on Papua.

Tremendously heavy rain began about 1:00 P.M. and continued until four oclock or thereabout, when the weather looked like taking up. Left by canoe on the return journey about 5:15 and were barely started across the strait when rain pelted down again. Arrived camp 7:05 thoroughly wet with sweat, although we wore raincoats. The road follows the shoreline, and on it are many small bridges across streams, most of them consisting of a single log with handrail. We did some precarious balancing on the more springy and uneven logs on the walk to Baniara. On the way back, in the dusk, and then darkness, with only one weak flashlight, borrowed at Baniara, and water rushing under the bridges, the crossings were a bit frightening.

Feel that our journey to Baniara was unprofitable. O'Sullivan cordial enough, but obviously unwilling to discuss the mountain. Barely glanced at a copy of Ken's route report which was given to him for his information. O'Sullivan planned to climb the week on a forth-coming patrol in company with Tony Skewes. It seems possible that he feels that Ken's ascent has deprived him and Government of the honor of being first there, and he resents it. Difficult to guess at any other reason for his attitude.

Monday 4/13/53: Heavy rain again this morning. Overcast and occasional light rain through the day. Weather seems to be coming from SW. Little field work.

My morning spent on accumulated collections from the Debora trip. In afternoon segregated and weighed most of my gear, and supplies, for the proposed top camp on Mt. Dayman.

Made application to Baniara for Employers Arms Permits for six of our boys, (fee 3/9 each). This legalized their carrying guns to shoot for expedition purposes.

Ken Wynn made the round trip to Baniara again today, taking mail to go on a Government boat which came in this afternoon, seeing to arms, permits, etc. Talked again to Peter O'Sullivan re Mt. Dayman, better results this time.

O'Sullivan has instructions to assist us in the event that we need help in getting carriers.On his projected patrol of the Daga country he proposes to climb Dayman by a native track leading up from Bibitan village, to the east, and be at the top about 14th. May. We should be there by that time. If not, we will be at Bibitan waiting for carriers. ....

Mail,in this evening (10) letters for me). A letter from the Director of Agriculture, Port Moresby, referring to my conversations with Granger of that Dept., and saying it would "be appreciated if, in due course, you could provide me with a list of the animals and the birds, and all the materials for which you will require permits and clearances." This after the days I spent in conference with office johnnies in Port, and detailed statements on what we want todo and what we want to collect.

Tuesday 4/14/53: Rain stopped after dark last night and resumed about five this morning. Some very heavy rain until noon. Sproadic showers later. Clear and starry now, (8:30).

Practically no field work apart from running trap lines, which produced one mouse. The three of us finished organizing, collecting, gear and supplies for the top camp on Dayman. Food stuffs still have to be reckoned. Think we can do it XXXXXX on less than 60 x 35 lb loads, wgich is well under my New York estimate of 70 x 40 lb loads. This all to the good. The steepness of the lower slopes of the mountain makes it advisable to reduce carrier loads to not more than 35 lbs.

Some firing practice for the boys who are licensed to carry guns. Performance nothing to boast about. Odd jobs, such as getting in fire wood, putting in screw nails in boots, etc.

Got mails away on the Government vessel "Managuna". (Missima language for SE wind.) which brought ADO Don Groves to Baniara to try some cases. A couple of natives were caught stealing copra from the trade store, and selling it back to the trader. The sentence was two months apiece.

Wednesday 4/15/5Wednesday 4/15/53: After a doubtful -looking dawn, the weather cleared and the day has been sunny and fine with gentle SE breeze.

Botanized along the coast to near Banapa village, a distance of about three miles. A large stream at the head of Arorara Bay spanned by a high level log bridge with good approaches and wire cables for hand rails. Three other streams crossed on the usual low level log bridges (single log) without hand rails. Large trees collected in the rain forest-mangrove-strand forest transition zone: Banyan-like Ficus 21926, Pterocarpus indicus, Pometia pinnata, and Syzygium, 21931, all common to abundant. Sonneratia 21923, grew to a large size in the inner mangroves.

Van, Geoff and their collecting boys, accompanied by Ken Wynn, made an all day excursion to the XXXX bat caves at Tapitapipi. Went by the "ruru" to Dabora, (where the boat, enroute to Goodenough Island on a trading trip, broke down), and walked the six miles back along the coast. Some tired men in the party tonight. Geoff did not find a bottle shaped snake which is reputed to live in the cave.

He did find spiders, beetles, etc. Van came back with over 100 bats of 5 species, all of which we got in the caves last week. They did not go far enough into the cave to come to a land under ground in which the natives believe the choicest bananas, mangos and breadfruit grow.

Thursday 4/16/53: Overcast and light showers to about mid-morning. Clear later. Strong southeaster from middle of afternoon through night. Difficult to handle botannical papers, and typewriter paper in the rest house.

Made a five and one half hour trip north along the Nukawa trail. About an hour and ten minutes steady walk to my farthest point, where the track crossed the Arorara River. After leaving the Bakiwa Creek water shed, only two small patches of grassland, the rest continuous rain forest (mostly primary) in the valley of the Arorara River, which empties into Arorara Bay. Crossed numerous small streams on the Arorara side. The Arorara itself entrenched in muddy banks about fiteen feet high; the stream about 30 ft. wide, and running a foot deep in shallows between deeper places. The Banapa people have a few gardens in the forest, mostly on the slopes, which are more or less rocky, (limestone of some sort). Extensive rich looking aluvial lands along the river. Kleinhovia hospita a prominent tree and reaching large size in forests of both river plain and ridges. Most characteristic of the larger canopy trees a Piptadenia ? with broad crown of lacy leaves and clean stright trunk, and Barringtonia sp. Palms oftwo pinnate small species. (Collected at Manapi) very abundant in undergrowth. Myrmecodia and Hydnophytum, also a sterile Dischidia, common as fleshly epiphytes in the tree tops. Collecting poor, few plants in flower or fruit.

Was visited in the afternoon by ADO Groves and Lance Atkinson skipper of the "Managuna". Groves instructed by Healy to see how we are getting along. Pleasant fellow, alert and decisive. Will inform Healy of the uncertainty of the broken-down Ruru being able to take us to Baiawa in a couple of weeks time, and suggest that the Managuna be put at our disposal.

A radiogram saying that Dr. Hoogland would arrive at Baniara this afternoon on the "Maniara". Dont know who sent the message, or why Womersley is not coming to join us.

Friday 4/17.53: Overcast in early morning in the field, then bright sun and calm air until about 10 AM. Strong southeaster rest of day and into night (now 8:30). Haze obscured the mountains south of Goodenough Bay most of the day.

Expecting Hoogland, I spent a short morning in the field, re-examining the rain forest gully immediately behind camp up to about the 250-ft. level. Collected 16 species (not one of them in both flower and fruit.)

About one oclock Hoogland turned up from Baniara, walking behind three jailbird carriers and a policeman. Tall, clean cut blonde, bespectacled, and wearing shorts. Brought a camp cot and food. No collecting gear. No boy. I had a tent rigged for him yesterday.

Hoogland bore a letter from Womersley saying that he, Womersley, could not visit us now owing to pressure of office work, but he hopes to join us on Goodenough Island. Forest Officer Hart may not be able to accompany us to Mt. Dayman. Recommends not taking Hoogland to the mountains - peronallity and unsuitability of his equipment. Have already told H. we can not invite him inland. Will be glad when this visitation is over. It introduces a foreign note into our party.

Sat. 4/18/53: Weather as yesterday, with stronger southeaster, veering to ENE about sundown. Mountains clear across the bay early this AM.

Hoogland with me in the field this morning, and helped with preparation of materials in afternoon. Knows little about the plants, and is frank about it. His work on New Guinea flora has been monographic.

Worked the rough limestone ridge east and NE of Menapi Bay. Only 13 numbers gathered but some of them of special interest: climbing Bauhinia 21979. Hoya 21980, Tecoma 21973. Primary rain forest persists on only the roughest parts of the ridge; the rest has been cleared for gardens and now carries secondary growths and grasslands of Imperata and Ophiurus.

From Hoogland I learn that Womersley, besides his duties as botanist in the Forestry Department, has charge of plantations ~~xx~~ (Araucaria spp. for timber in the Bulolo area now being exploited commercially, and reforestation of induced grasslands on the central highlands), and is charged with the establishment of a botannical garden; and a hill garden somewhere on the highlands. Looks like a job for at least three men. The botannical garden is to be at Lae.

Regarding the Dutch-Indonesian dispute over possession of west New Guinea, Hoogland says small detachments of Indian soldiers have at times landed on the Vogelkop.

Sunday 4/19/53: Yesterday's weather repeated.

Bunting's "Betty Ann" arrived after dark last night with two months replenishment of stores for us. A start made in repacking for inland transport.

The crippled "Ruru", which was to have taken us to Baiawa on May 4 is being taken to Samarai, or in the direction of Samarai, tomorrow. It is uncertain whether she will be available for our charter when needed. Have written to Buntings, and District Commissioner in an effort to arrange alternate transport.

Our flour supply per "Betty Ann", invoiced as "fresh", is full of weavils and their larvae and will soon be rotten. Keeping a month's supply and sending the rest back to Samarai.

Monday 4/20/53: Gentle southeaster early in morning. Still, muggy day after that. Considerable cloud, sprinkles of rain after 5 oclock. Mountains across bay clear until mid-afternoon. Average barometer about 20 mm higher than for past 3 days.

With Hoogland accompanying me, spent a long morning in primary forests on a modrately rough limestone ridge directly inland from Banapa village, somewhat over three miles and about one and am quarter hours walk from Menapi. Would have gone further, and examined extensive stunted rain forest on rough lime stone between Banapa and Neara Point, but for Hoogland's inability to cross log bridges without assistance. Turned back at a long, high single-log bridge , without handrail, about ¼ mile beyond Banapa. The still, greenish creek spanned by the bridge looked like a good place for crocodiles, and I did not wish to risk, H. dropping in, holding my Sigamout by the hand.

Forest of the ridge, like all the rain forests in this area, very poor in undergrowth. Tree species. fairly well represented though few of them fertile Some very big Intsia bijuga on the lower parts of the ridge. Several subcanopy trees collected included Sapotaceae 21986, and 21990. Erycibe hellwigii 21982, determined by Hoogland, who has monographed the genus, occurred as a high climbing liana. Only ten species collected. The poorest results for a monrings search that I have had on the trip. Ken Wynn packing stores for the first Mt. Dayman camp.

Tuesday 4/21/53: Still, cloudy day with a few sprinkles during afternoon. Slight SE air. Mountains clear across the bay below a white cloud cap extending down the slopes to end abruptly at an estimated 4000 feet.

Hoogland with me on field work up the mission water supply gully to the uppermost limit of surviving forest at about 300 ft. Some tall trees of good girth, but there has been much disturbance cutting timber for native houses at the mission and clearing steep slopes for banana and yam gardens. A number of interesting subcanopy trees include: Morgceae (Moraceae) 22000, Nauclea 22001, Myristica 21997, and with angled fruits, and two species of Ficus. All well bitten by small brown ants while collecting myrmecophilous Dischidia rafflesiana, and Hydnophytum 22003, and the "button orchid" Dischidia 22002, all abundant on the upper stem and branches on an Alstonia tree which was felled by the boys.

All the forests of this area are infested with hard-biting "green" ants which make leaf-bag nests. Today I picked up some scrub itch (trombicula mite) in either forest or neighboring grassland. The first time I think any of us has experienced this pest on the peninsula.

Ken busy all day reorganizing supplies, assisted part time by Geoff.

Had to dinner this evening Jack Peters, EMA (European medical assistant) Baniara. Queer little fellow. City type. Diffident, yet likes to talk of his experiences as a medical orderly in New Guinea during the war. Onpatrol Baniara across country to Tapio (3½ hrs he says) and back around the coast. Camping in the village tonight though invited to stay with us. So far as I can make out native health in the area is very good. He keeps a look-out for yaws and gonorrhoea, both rare here.

Wednesday 4/22/53: Calm early morning followed by strong southeaster, which brought squally showers after about three PM.

Accompanied by Hoogland, climbed to the top of the 500 ft. hill behind camp - the highest point in the neighborhood. Good view up the OKawabero valley to about the position of Podago village. Much grassland there, but I doubt if any of the grassland in sight is a primary condition. Relics in gullies indicate a formerly rain forested condition. Perhaps in the not-so-long-ago a fairly numerous population lived inland, and has since for the most part moved to the coast.

Ophiurus ? 22016 is mixed in quantity with the dominant Imperata of the higher grassy hills and spurs behind Menapi. Rottboellia ? 22015, 2 m or more talll, forms dense stands, very hard to push through, about the forest edges. Heteropogon contortus takes possession on the dry crests of ridges. Several interesting Convulaceae occur as very slender grass-twiners; 22012 with white, 22013 within inconspicuous small pink, and 22019 with pale yellow flowers. Flowering and fruiting material collected of a very large Piptadenia-like tree (22010) characteristic of the ridge rain forests.

Serious boy trouble today. Ken Wynn's personal boy David, who has been on loan to Van and doing good work in hunting and skinning objected to going with Ken on an overnight excursion to the valley of the Ararara River to trap and shoot mammals. David I'm afraid has beenmade too much of by Van, and it has gone to his head. Ken was most generous in loaning his boy to Van. Naturally, after employing David for 5,years and thinking highly of him, and giving him better treatment than most boys get, Ken has wished to retain rights of guidance and authority over him. This he has done by borrowing the boy back for odd jobs. He has also been trying to advise Van on the handling of boys in general. But Van, after the style of most newcomers to the tropics has been thoroughly wrapped up in David. The result is that, for the time being at least, Van has no David. Ken, after a calm talk to David in my presence, fired him. I cannot employ him. There is the morale of the rest of the boys to think of. So Ken took another boy on his mammal hunt, and David is out of a job. The thing will probably blow over in a day or so. Meantime, both Van and David will have to amend their attitudes.

Thursday 4/23/53: Rain ended early last night. Calm today until about noon. Then boisterous southeaster and sporadic light showers. Ken returned about last midnight, wet and tired, and without a mammal to show for his excursion. Has gone out again tonight, taking three boys, two jacklights, and three guns. One of tonights hunters is the errant David. He is back in the fold, under tighter discipline I hope.

Collected this morning in Sago swamps and ajacent moist ground back of Spillers plantation more plants than I have been able to catalogue and prepare for drying. Planchonia 22025, a common big tree of alluvial flats, included in the bag. Most of the plants herbaceous among them nine sedges.

Friday 4/24/53 Early morning cloudy and threatening. SE breeze began and started to clear about 7:30. Bright clear weather after that, and into the night.

Ken's second night hunt in the Arorara River Forests was almost as unprofitable as the first. His party brought back one Petaurus. Tonight he is out in the direction of Baniara, while two boys have gone along the coast toward Banapa.

With Hoogland for company botanized again in the rain forests of t the Arorara valley. As expected, the collection was small, but it included such interesting plants as climbing yellow-flowered Caesalpinia? 22052, and common big tree Sapotaceae 22061. A very large Platycerium, common as an epiphyte in the forest, and remarkable in having a mass of short lacinate processes about the base of the leaves, was sterile and therefore not collected at this time. Another striking epiphytic fern, Ophioglossum sp. with pendant leaves 3 feet long, was on too big a tree to be collected. The Platycerium resembles P. grande.

Bunting's boat "Betty Ann" came in during the morning to load copra at Spiller's plantation and departed in the afternoon, taking mails of ours to Samarai. We learn indirectly that the "Ruru", which is supposed to move us from here in 10 days time, is laid up in Samarai, awaiting spare engine parts from Australia.

The villagers are staging tonight a dance in our honor. Fourteen dancers with drums performing in the lamplight in front of the rest-house. Several women taking part, always behind the men. This is "pay back" for a feast Ken Wynn put on for the locals to celebrate his Maneau trip. After thefirst couple of weeks our relations have been good with the locals. This morning as I botanized near a garden house in the forest, the owner came along with a hand of sweet bananas for our refreshment, and later presented my boys with a whole bunch of ripe cookingbananas. I returned the gift with some of my cut tobacco.

Saturday 4/25/53. Anzac Day. A holiday, but our work went on. Boys given their Sunday pay, and tonight several have metal-bound tobacco pipes bought at the trade store.

Fine clear day. Moderate southeaster, freshening at night.

Collected in sago swamps and to the head of the creek behind Spiller's plantation. A very deep gorge on the righthand branch of the creek, which I followed. Very little in the forests up there. Most interesting plants for the day a fine "staghorn fern" "Platycerium 22070, and the sago palm Metroxylon 22064. The Menapi people manufacture sago, but apparently only when other foods are in short supply. Saw a number of over-mature trees. Six sago-making troughs stood around the remains of one big palm, and the sour smell of the refuse pulp pervaded the air. The palms are cut just before the flowere open on the great terminal inflorescence.

Police Officer Peter O'Sullivan walked up from Baniara to visit us and stayed the night.

Sunday 4/26/53: Fine day with enough of a southeaster to raise a low white surf on the fringing reef. Wind freshened late in afternoon and at 9 o'clock is still blowing strongly.

The boys given a holiday except for essential duties such as cooking, and running trap lines. Van always has mammals, trapped or shot at night, to skin out and make up.

My day spent on fresh specimens on hand, packing dried materials for shipment to Samarai for storage, and packing and listing collecting supplies for inland.

Monday 4/27/53: The recent pattern of weather continued today. Morning with little breeze, and unusually hot, I thought, in the forests. Strong southeaster from about mid-afternoon on into night. Set the minimum and maximum thermometers last night: low this morning 27 C., high today 29 C.

Made photos of sago palms on Bakiwa Creek, back of Spiller's plantation, and collected in the rain forests beyond. Very little to show. Have gone about as far as I can with botanizing in this locality at this season. Most of today's plants were weeds from native gardens, etc. Most prevalent of these is Chrysopogon acicularis, the barbed "seeds" of which, adhering to clothing, and hairy/legs of the natives, make it a damnable pest here as in North Queensland.

Tuesday 4/28/53: Moderate southeaster all day and into night. Considerable cloudiness, though mountains clear across bay except for cloud-mantled summits.

Sent 2 boys out to collect living Platycerium plants, and with Hoogland and 1 boy went west along the coast to make photographs and do general collecting. The sky soon too overcast for pictures. Collected in all 10 numbers of plants, mostly things seen before, but including the third orchid species for the camp - No. 22091 with insignificant small cream flowers.

Radiogram from Buntings reading, "Expect to despach vessel end of this week will advise further." One from DC Healy saying the "Ruru will be repaired and will return Menapi this weekend. Mason prepared move you and party when desired." This is good news, although there is still some uncertainty re the date the Ruru can take us from here to Baiawa for the move inland.

Wednesday 4/29/53: Someone has said that the only certain event in New Guinea is the unpredictable. Had started into the field this morning when a boy came running with a message. Ken, listening to the radio at the plantation, had heard in shipping news that the "Jessie," a Bunting boat, was due to leave Samarai on Thursday to "Transport the Archbold party." That seemed to mean that we could expect to get away from here on Saturday.

Two of our leading Gosiagos, Jimmie and Niko, despatched immediately to warn the Collingwood Bay villages of our coming. Carrying a letter to the village councillors, typed in Motu by Ken, they

will walk overland to Tapio, via Abuaro and Podargo, thence west along the coast to Medino, Baiawa, Kwagila, and Kewansasap. They carry their swags, three days food, trade tobacco to buy more food, guns and three cartridges each. In the bustle of leaving, Jimmie dropped his arms permit which natives bearing firearms are supposed to carry at all times. The precious document was picked up in camp later in the morning.

Early in the afternoon a letter arrived from Peter O'Sullivan at Baniara. His radio news was that the Jessie would arrive here tomorrow. He was going to contact Buntings in an effort to have the boat diverted to Mukawa Mission to pick up a hospital case for transportation to Baniara, and asked my OK. Sent the approval by another messenger, and in remarkably short time a third runner turned up with the information that theproposed call of the Jessie at Mukawa had been cancelled, and that the "Leander," a government vessel, would pick up the hospital case.

A pending dance may have had something to do with the speed of the messengers. There was a canoe launching at Menapi village during the afternoon. And the villagers brought presents of food for ourselves and boys. Bunches of cooking bananas for the boys. Eating bananas, papayas, watermelons, pineapples, pumpkins and tomatoes for us. Then as night fel, the fillagers gathered to dance in the lamplight in front of the resthouse. At 10:30 they are still prancing back and forth and singing primitive songs to the beat and throb of 20 drums. They are nice people when one gets to know them a little.

Good progress made with the packing of stores and gear. The organization for our move is complex. Provision is being made for a week of collecting from the coastal village of Baiawa while the bulk of preliminary transport is being made inland to Biniguni by Ken. The main lot of stores and supplies for use at the top camp on Mt. Dayman is being sent in first. Then 10 days supplies for a possible waiting period at Biniguni while carriers are being marshalled for the mountain. Rice for the carriers on the mountain and cases of tobacco and drums of salt to pay them also have to be sent in. Ken has most of the stuff packed and marked and stored in the copra shed at the plantation. A fourth lot of collecting supplies has been packed for a mossy forest camp on Mt. Dayman, and a fifth for the main work at Biniguni and a probable camp at the junction of the upper rain forests and the mid-mountain forests.

Thursday 4/30/53: Somewhat showery in morning. Clearing later. Slight SE breeze. Yesterday there was very heavy rain between 10 and 11 followed by scattered light showers in the afternoon. Night bright and starry.

The dance last night ended about 11 o'clock when I was called upon to make a speech to the assemblage. Village Constable "Maclaren" translated my English into the local Paiwa language. When the dancers had dispersed, three sophisticates in white shorts treated us to selections on mandolins -- native songs, including one composed during the war when many natives worked for the armed forces at Port Moresby. The theme of this mainly on the monotony of the rice diet they lived on.

The unpredictable, as it concerns the "Jessie," still has to be vouchafed to us in full. The latest vagary is a radio from Buntings: "Unable have vessel Menapi until Monday afternoon regret delay." We stopped collecting yesterday in order to have things packed for possible loading on the boat tomorrow afternoon, and Van picked up his traps this morning.

Friday 5/1/53: Strong southeaster and fine weather after early morning and continuing through night.

Hoogland, after a fortnight with us, left today. O'Sullivan sent a policeman and prisoner carriers to take his baggage and I accompanied him to Baniara, where he will await a boat for Samarai. I'd say Hoogland is the makings of a good systematic botanist, possible a good field man. At present, fresh from Europe, he does not have a good eye for plants as they growiin New Guinea. It is understandable that a tropical flora might be a mite overwhelming to such a person. Not to be so easily condoned is a Dutch nationalism which will not stand him in good stead in this country, especially as its chief manifestation is in disparaging comparisons with things Australian. Another tendency, which I found it necessary to check on two or three occasions, lies in an apparent urge to poke an oar into anything that goes on. For instance, taking a hand in instructing one's native personnel does not go well.

Our progress on the four-mile journey to Baniara was somewhat of a marvel in ineffeciency. Involved in the proceedings were four armed constables (without arms) and four prisoners. There were three canoes to transport two passengers and three porter loads of year, when one canoe of the right kind, available at Baniara, could have done the job. About half way along the coast we came to one canoe, adequate for the baggage. A mile farther on was another canoe, manned as was the first by police and prisoners, which was able to carry Hoogland; Walking another half mile to Abuara village, with one of the surplus policemen, I got a village canoe to take me across the strait to Baniara. Lost sight of somewhere along the coast were two police and one prisoner. They had all crossed over from Baniara in the early morning calm, crowded on two small government canoes. No one concerned, including two white officers at the government station, had thought about the almost certain rise of wind and sea later in the day. I had an exciting moment as my canoe bumped through waves breaking on the edge of the fringing reef at Abuaro.

Stayed the night at Baniara. A mail arrived overland from the tip of Cape Vogel, having been dropped there by a vessel out of Samarai.

Saturday 5/2/53: Returned from Baniara in the calm of the morning, paddled to within a mile of camp by a policeman and a prisoner. A good part of the one-hour canoe trip was taken up by the prisoner, a Menapi man doing a short stretch for stealing, giving the policeman a detailed account of our doings. How we hunted for all sorts of things in the bush, skinned rats and cuscus, caught snakes and put them into cans of medicine, and so on. Both were taken aback when at the end of the trip I spoke to them in Motu, the language they had used.

Saw and photographed at Baniara, two wallabies which had been brought from somewhere on the mainland and were running free on the island. Of slender build, short-haired, grey rather than brown, and with blackish forepaws and heavy blackish stripe from eye forward to mouth or nose, they looked different from any other wallabies I have seen.

Visited the native hospital at Baniara and tried to learn from European Medical Assistant Peters something of his work and charges. Peters a bit troppo, or otherwise queer, and a hard man to pin down to answering questions. He has 71 in-patients and 14 out-patients (maladies??). Living with the patients in the wards are 24 relatives or "guardians." The same system that one sees in West Africa. When someone enters hospital, the immediate family goes along too. All expect to be fed, and usually are provided for. Recently, however, this government has put an end to the free feeding. Guardians must now bring their own food, or work for it.

A few specimens are being added to the collections, for there is always something left to collect after weeks of work in almost any locality. But our work here may be said to be ended. Van has 478 mammals, including about 250 bats from the caves. Geoff's catch is 362 herps, 35 freshwater fishes, and including light trap material about 27,000 insects. The take in plants is 482 numbers, 2260 sheets (34 Bryophytes included in the numbers). Not a bad start.

This is the poorest country we expect to be in during our 9 months of field work. Apart from one or two, who are not too satisfactory, the boys are shaping well. All the party in excellent health and spirits.

Sunday 5/3/53: A sharp shower woke me at three this morning. Strone SE after that, moderating about 8 in the evening. Weather threatening, but no further rain. Barometer normal.

Gave all the boys a day off after the cooks had washed the clothes in the morning. But Losima, the chef No. 2, a faithful lad, insisted on coming in to wash up after lunch. He would have been ashamed otherwise. It is all right for taubadas to cook their own food if they feel that way and like a change. But washing dishes is boy's work. For breakfast we had eggs bartered from the native wife of the local trader for two cans of tobacco (worth 8 shillings locally) and well-fried by Geoff - six between four of us. Ken got away with a lunch of cold fried saugages left over from breakfast, bread and jam and papaya. I was concocting a stew for the evening meal when someone shouted sail-ho above the moise of surf and wind and the "Jessie" came into the bay, 24 hours before ETA. We were all summoned to dinner of roast chicken, ~~xxx~~ jelly and homemade icecream by the trader's wife - a feast previously arranged to take place before our departure.

Present at the dinner were Norman Evennett, skipper and part owner of the Jessie, and Noel Chapman, a traveler on the boat. Evennet, a high type half-or quarter-caste White-Papuan, of good bearing, quiet speech, and evidently well educated. Chapman another kind: I learn from Ken, an ex-staff man of the War Production Board who left under a cloud and is now practically on the beach. Both spick and span in starched light clothes, in contrast to our unironed khaki.

Sat and photographed at the turn, two wallabies which had been brought from somewhere at the mainland and were roaming free in the island. Of slender build, short-haired, grey rather than brown, and with blackish forepaws and heavy blackish stripe from eye forward to mouth or nose, they looked different from any other wallabies I have seen.

Visited the native hospital [illegible] and talked to [illegible] from [illegible] Medical Assistant Roberts something of his work [illegible]. Roberts a big fellow, [illegible], and a hard man to pin down to answering questions. He has [illegible] in-patients and [illegible] out-patients (mostly [illegible]). [illegible] with the patients in the wards are [illegible] relatives or "[illegible]." The same system that one sees in [illegible] Africa. When [illegible] in a hospital, the [illegible] go along, too, [illegible] to be fed, and usually are provided for. Recently, however, this government has put an end to the free feeding [illegible] natives must now bring their own food, or work for it.

A few specimens are being added to the collections, for there is always something left to collect after years of work in almost any locality. But our work here may be said to be ended. [illegible] mammals, including about 250 bats from the caves. [illegible] 36 [illegible] for fishes and [illegible] light trap material about 41,000 insects. The take in plants [illegible] (including [illegible] in the numbers). Not a bad start.

This is the poorest country we expect to be in during our 9 months of field work. Apart from one or two [illegible], the boys are staying well. All the party in excellent health and spirits.

Sunday [illegible]: A small shower woke me at [illegible] this morning. [illegible] after dawn, [illegible] about [illegible] at the moment. Weather threatening, but no further rain. Barometer normal.

Gave all the boys a day off after the [illegible] and washed the dishes in the morning. [illegible], the cook No. 2, a faithful [illegible], insisted on coming in to wash up other hands. We would have been [illegible] otherwise. It is all right for the boys to cook their own food if they feel that way and like a change. But washing dishes is boys' work. For breakfast we had eggs [illegible] from the native [illegible] at the local trader for two [illegible] of tobacco (worth 6 shillings locally) and well-fried by [illegible] - six between four of us. Ken got away with a lunch of cold fried sausages left over from breakfast, bread and jam and papaya. I was concocting a stew for the evening meal when someone [illegible] the [illegible] and the [illegible] came round the bay, [illegible] before 4PM. We were all [illegible] to dinner of roast chicken, [illegible] jelly and homemade ice cream by the trader's wife - a feast previously arranged to take place before our departure.

Present at the dinner were [illegible], skipper and owner of the [illegible], and [illegible] Chapman, a trader on the boat. [illegible] high type half-or quarter-caste white-Papuan, of good bearing, [illegible] speech, and evidently well educated. Chapman another [illegible] from [illegible], [illegible] of the [illegible] Board [illegible] and is now practically on the beach. Both [illegible] in [illegible] light clothes, in contrast to our [illegible] kit.

Rum had been flowing before our appearance, and some afterwards. But we learned from Bill Mason, who returned on the Jessie, that the "Ruru" will not be in good running order until spare engine parts arrive from England. The operator of Sariba Slip, on the mainland near Samarai, can re-commission her temporarily by welding broken ~~part~~ pieces. The Ruru, our expected mainstay for coastal transport in these parts, looks like a doubtful quantity.

The "Jessie" sustained damage in rough seas on her way here, and something is wrong with the engine. We may be able to load tomorrow, but there is little chance of getting away before Tuesday. Evennett will not raise his anchor until the sea moderates.

In addition to all this, numerous letters were written during the day, semi-final packing done, and an order made out for foodstuffs to carry us on to the end of August. We now have stores for two months on hand.

Monday 5/4/53: Dull, threatening morning, cleqring toward noon. Little wind, and the sea moderating outside the bay.

All our cargo is loaded on the Jessie, including collections which are being sent to Samarai for storage. We will be astir at 4 in the morning, and get away at daylight if the weather is propitious. The sea is very rough off the south end of Cape Vogel in strong southeast weather. There is a certain amount of shelter in Collingwood Bay. Evennett has picked up a native to pilot him into the Baiswa abcgirage, as he is unfamiliar with that part of the coast and there are many offshore reefs in Collingwood Bay.

Government vessel "Leander," bringing Judge Gore to try a murder case at Baniara, delivered mails from the U.S. which left Samarai on April 24. Mails from Home have reached us here in about ten days. This lot was almost a month on the way.

Tuesday 5/5/53: Somewhat cloudy day with very light southeast wind. Camp astir at 4 A.M. Most of our final cargo was on the beach by 5 o'clock. At daylight (5:45) all the cargo was still there. Evennett and Chapman had sat up until 3 o'clock on the "Jessie" drinking. The boat boys, in typical Papuan fashion, would not arouse them when shouts came from shore in the dark. It was 6:50 when we raised anchor and left Menapi. Mountains, including Mts. Simpson and Dayman, very clear and blue as we chugged up the bay toward Cape Vogel.

The Jessie a 46-foot Ketch rigged vessel drawing 5½ feet now, 6 ft. when loaded; 30 hp. Lister Diesel engine giving a speed of around 6 knots. Have on board as pilot a boy of Spiller's named Ananias. Also 7 Fergusson Island recruits who are being taken to Samarai by Evennett, and Native Medical Orderly "Frank" and his wife. Frank is returning to his station at Binigumi with a stock of medicines from Baniara. Another passenger, and one likely to be very important, is Interpreter Diowowan, on loan to us by Peter O'Sullivan. Diwowan is a mountain man of such status that he can boast two wives. It was he who gave us very good information on Mt. Dayman a month or more ago.

Had engine trouble soon after starting. Off Sibiribiri Point, at SE tip of the peninsula, at 8:30. At 9:50 rounded Ipotete Island at NE tip of Peninsula; an untended flashing navigation light on this island (the only other light on the NE coast is at Tufi. Opposite Mukawa Mission at 10:35. The ¼-inch map gives a misleading impression of the coast from about Ipotete Island to Mukawa and beyond. Coast line is steep-to. Off Tapio at 11:30. Our pilot says the caves are under Castle Hill which rises to 800 feet about a mile west of the village. At about 3 P.M. ancnored off Medino in 6 fathoms. Coast here much obstructed by coral patches; same off Tapio.

Went ashore and found awaiting us 10 men willing to carry from Biawa to Binigumi. They were given a stick of tobacco each with which to buy food for the night and tomorrow.

Medino a small village of about 20 houses (?) most of them on the east side of a narrow deep creek and a native mission establishment on the west side. Bathed in a small stream coming out of the hills about 300 yards off the west bank of the creek and behind the mangroves which narrowly fringe the coast. Hills grassy with a savanna stand of such trees as Alstonia, Timonius, and Sarcocephalus. No true savanna trees, and apparently a very poor grassland flora. Grasslands of all this coast apparently secondary, though doubtless old established.

The parting event at Menapi last night was a sort of musical put on by Molly Spiller. Four men with mandolins, one with uke, 2 "spoon men," squatting on the floor. Two men and two women dancing. The orchestra singing native songs to each selection. In most of the dances the two men wore grass skirts said to be the original dress for dances. Singing good though with little variety of tone. These people do not harmonize.

Wednesday 5/6/53: Medino - Baiawa. Clear last night; heavy dew. From the anchorage a fine view of the mountains from Mt. Simpson to Mt. Dayman and Goropu. Mountains cloud-capped down to ca. 5000 feet after 8:30. Showers on lower slopes of Dayman all afternoon, and at Baiawa after about 5 o'clock. Only light SE breeze today.

Started to leave Medino anchorage at 7:30. Turned back twice on encountering patches of submerged reef. Water perhaps deep anouth over them for our vessel, but Evennett taking no risks.

Thursday [illegible] [illegible] at 4 a.m. East of [illegible] ([illegible]) all the cases and [illegible] [illegible] very clear [illegible]

The [illegible] Landed 30 [illegible] engine giving a speed of around [illegible] [illegible] his wife. [illegible] Better [illegible] [illegible] Took him on [illegible]

Hot weather [illegible]

Fishermen and [illegible] They were given a [illegible] night and tomorrow.

[illegible]

[illegible] These people [illegible]

Tuesday 5/[illegible] Malaga [illegible] breeze [illegible]

Started to leave [illegible]

Took on board at Medino 15 carrier volunteers in all, and a village councillor.

Extensive grasslands on the hills between Medino and Baiawa. Hills rise close to coast. No sign of villages. Kept well off shore and outside the Sidney Islands, then turned in to Baiawa on the east shore of Moi Biri Bay. Entrance to Baiawa narrow between wide shore reefs, but passage good. Anchored about 100 yards from the mangroves in 6 fathoms. Entire shoreline of the bay fringed with mangroves. At Baiawa the mangroves about 300 yds. through. Canoes enter a very narrow and shallow passage, about 50 yds. inside of which is the head of long, raised causeway or duckwalk leading direct to the village. Duckwalk raised about 4 feet above the mud on very thin mangrove forks; decking of sticks, bits of old canoes, etc., and about 2-3 ft. wide. Rickety structure, but strong. Baiawa on a narrow fringe of gently sloping dry ground between the inner edge of the mangroves and a steep ridge rising immediately behind to 100 feet or more. Rest house perched on top of this ridge. Village unattractive. Mission and about a dozen houses. Houses have very low walls and are raised well above the ground on posts. Copra being made (sun-dried on raised racks) from a strip of coconuts behind the mangrove. A few unhappy looking Hevea rubber trees on lower slopes of ridge.

All but first carry-cargo unloaded in quick time and taken ashore on village canoes with ship's dinghy helping. Villagers, the carriers we brought from Medino, and six other carriers from villages between Medino and Baiawa, willingly carried the cargo up the steep hill. Furtunately the rest house is strongly built, for the split palm floor must be holding up nearly 2 tons of boxes, drums and bales of supplies.

Arrangements made by Ken for transport of the first carry-cargo. Enough village canoes in sight to take it across the bay and up Moi Biri Creek to a landing place. About 17 Baiawa villagers offer to carry. Trouble with the carriers from Medino and intermediate villages. They wanted to be fed rice. Baiawa policeman said his village had no food to sell us for them. Spokesman for the Medinos was the councillor we brought on the boat, recognized by Chapman as an ex-War Production Board employee who gave trouble in Samarai. Finally the Baiawa V.C. admitted that native food was available and was given 10 sticks of tobacco for enough for our carriers for tonight and the morning. Everyone satisfied, but before the dispute was settled six of the Medino men vanished, presumably toward home. Have tonight the names of 35 men who offer to carry from the Boi Biri Creek canoe landing to Binigumi.

Rest house very crowded. Barely room for the four of us to rig our camp cots.

Thursday 5/7/53: Baiawa. Clear hot day. Mountains clouded on upper and middle levels by early afternoon. Showers on foothills and at Moi Biri Bay after 3 o'clock. About 2000 feet of top of Dayman showing clear above the clouds from about 5 to 6 o'clock.

Went out to the "Jessie" at dawn to help Ken check cargo onto the canoes and to see him off. About 65 carrier loads put on 6 canoes. The bay glassy calm. The last canoe left about 6:30. Paddlers in good spirits, and singing. Most of the carriers sent overland around the head of the bay. "Jessie" left for Goodenough, Fergusson and Samarai about 8 A.M.

The natives have been so cooperativein offering to carry that we thought there was a possibility of Kwagira and Kewansasap men offering at the Moi Biri landing this morning to take in the 25 loads that we of the main party are holding at Baiawa for Mt. Dayman top camp and Binigumi reserves. On account of tides in the shallow

creek, the move could not be made until tomorrow morning, but we spent some hours in organizing for the carry and putting things shipshape with the cargo being left in the resthouse for later carries.

Had about finished lunch when Jimmie, one of the two Gosiago messengers who were sent overland from Menapi 9 days ago to drum up carriers and foodstuffs, arrived in camp. He had walked around the head of the bay. Bore a note from Ken written at Moi Biri Creek canoe landing. A few carriers had turned up from Kwagira at 10:30, but he was short of bearers for 20 loads. Expected to have everything at Kwagira today, and go on to Biniguni tomorrow. Ken has finished with Jimmie. Declares him unreliable and untruthful. I should like to know the whole story.

Spent a couple of hours in the field this afternoon, up to ca. ½ mile from camp along the government track which goes easterly toward Medino. Ridgy terrain. The highest hill (200 ft. according to the 1-inch map) forested to the summit. Other rain forest in gullies. Most ridges and some hollows grassy. Grass on average a little better than knee high. Some Imperata, but so far as I can see mostly "kangaroo grass" (Themeda australis?). Concentrated on grass associates, the grasses themselves mostly past fruiting. Collections not yet prepared. Must have about 20 spp. from the grass country. A few yards inside a rain forest gully, found on the base of a tree the first filmy fern (Hymenophyllum s.l) I have seen on the trip; a tiny thing with roundish leaves (No. 22096). Forest appears moister and richer than in the area we examined on the Cape Vogel Peninsula. Wallaby signs abundant on the grassy ridges. None shot yet.

Friday 5/8/53: Baiawa. Fine morning; mountain clear and blue until 8:30. Showers on slopes after 12:30. Raining and thundering there from about 3 P.M. Thunder showers here beginning at 4 and sprinkling still (7:30).

No messenger having arrived from Ken last night, we started full scale collecting this morning. Geoff and his crew brought in a snake, a freshwater fish not previously collected, lizards, and various insects. Van has 90 traps out tonight; has not yet shot a wallaby or any other mammal. I prepared my 26 numbers from yesterday and put them on to dry; collected over 20 numbers on the grasslands and in the edge of the rain forest.

At six this evening the Baiawa village policeman arrived with two letters from Ken. He and his men had carried from Kwagira to Biniguni this morning (3-3½ hours) and returned to their village (probably 6 hours of travel). Ken arrived at Biniguni with all the loads he set out with yesterday morning. Has arranged with the Baiawa and Kwagira village policemen to have about 30 carriers ready to transport us at daylight Tuesday morning. Is trying to get Opaigwari people to carry at the same time, and suggests that we bring 50 loads with us. Ken's arrival at Kwagira yesterday was in heavy rain, presumably in the afternoon.

This is excellent news. Better than I expected. And we can collect here for another couple of days before we close down for the treck to Biniguni.

Looking down on the village from the heights of the resthouse during the rain this afternoon, it seemed a wretched place. Thatched houses smoke-stained and sodden. The bare ground wet and seepage water running under one of the houses and across the mangrove mud. Presently a grass-skirted woman headed out toward the mangroves in the drizzle, on an obvious mission, to be soon followed by two understanding village pigs. Most white men in New Guinea do not eat village pig.

Saturday 5/9/53: Baiawa. The first day without rain since we gave been here. Mountain very clear early this morning; upper and middle levels under cloud after

8-9 o'clock. Scattered showers on lower slopes during afternoon. Every day we have in the afternoon a little wind coming from easterly directions - probably deflected southeast trades.. This is a lee coast in the southeast season.

Busy a good part of the day on yesterday's collections; not much field work. Van had no catch from 90 traps set last night; nothing from night hunting. This afternoon his boy David saved the situation by shooting first a cuscus (*Phalanger vestitus* group) in the rain forest, then a big male wallaby on the grasslands. Tonight David shot a small male wallaby by jacklight. The wallaby is the species I saw in semi-captivity on Baniara government station.

The Medino carriers straggled back today, having camped at Kwagira last night and walked around the head of Moi Biri Bay. All called in for a handout of newspaper with which to make cigarettes of the trade tobacco they received as carrier pay. They and the Baiawa carriers last night also brought betel nut from Binigumi. Our boys have bought some from them and no doubt tonight they are pretty well drugged by it. Have put a prohibition on the chewing of betel nut during working hours.

Sunday 5/10/53: *Baiawa*. Again a very clear morning. Felt barely comfortable under one blanket. Temperature at daylight (6 o'clock) 72 F. Mountain clear until about nine; upper and middle levels clouded after that until late afternoon, when the summit 2000 feet or so showed out. No rain here or observed on the mountain slopes. A distinct change in weather.

In the quiet of the morning, before the easterly wind rises, we hear the low roar of a distant waterfall about south of Baiawa. It is perhaps on the Kiinimaga River which rises on Dayman and according to the 1-inch map, peters out in a swampy area inland between Baiawa and Medino.

Field work for this locality ended today. Results have been good in Geoff's departments; good in plants; poor in mammals. No mammals trapped in three nights; one short-tailed rat brought in by a villager. Three wallabies shot and one cuscus. In plants I have 81 numbers, 367 sets. Have concentrated on the grasslands and paid only passing attention to the limited rain forests. Rain forest mostly in dullies although the highest hill in the area (200 ft.) is capped with rain forest. I very much doubt if the extensive ridgy grasslands, or rather savannas, are a primary condition. The principal tree on the grasslands is *Timonius* 22171 (*T.timon?*); others *Sarcocephalus*, *Albizzia procera*, and another which I cannot identify or find in flower or fruit.

The country rock is soft, greyish and gritty, and may be volcanic. It weathers into a soil dark grey when damp, and as seen in eroded paths on the grasslands, a yellowish sticky subsoil. Low scarped outcrops are frequent. Collected a sample of the rock today.

Numerous native visitors today wandering about camp and standing staring into the resthouse and at us. Mostly local folk. Some few from Kewansasap and toward Medino. One man carrying the only native-owned gun I have seen in the area, is from Abuaro (near Baniara) on walkabout. Considerable shouting about the village this morning as two new canoes were hauled in from where they were adzed out in the bush. Small narrow things and one of them crooked.

Monday 5/11/53: *Baiawa*. Weather as yesterday. Temperature at 6 A.M. 70 F. No rain here or observed on mountain or foothills. Mt. Victory and Goropu clear of clouds in late afternoon. These mountains are cloudier than Dayman, and perhaps wetter at this time of year.

[illegible]

During a good part of the day [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Whole day spent in preparations to vacate Baiawa. Ken's expectations, as advised two or three days ago, is fifty carriers for tomorrow. Was told two days ago tha that there would be six canoes to take us across the bay and up Moi Biri Creek tomorrow at "six o'clock". Further inquiry today brought the information that two of the canoes had departed for Medino where they belong. Therefore sent 40 loads to Moi Biri Landing on three of the larger canoes this afternoon. Canoes left at 4:50; leading one returned at 8 o'clock. The Kwagira V.C., a good type of man, reported in this morning; he has 13 men to carry tomorrow; went with the canoes this afternoon and returned tonight. Sent two of our boys (David and Jimmy) with the canoes with instructions to raise the cargo above the ground on timber and cover it with a fly. Consider it safe in this country to leave the cargo unguarded for a night.

The biggest of the canoes here are small, and none of them have big enough outriggers. This afternoon the smallest of the three tilted over when one of the boys (David) jumped on the platform from the duckwalk. Result, two boxes doused in the water, one containing 60 lbs. of trade tobacco, the other collecting supplies of Van's. Have the contents drying over a lamp tonight, spread out on the detachable sago-midrib door of the resthouse veranda.

Took tonight the names of the men who worked today and those who will carry tomorrow. The prospects are 14 from Baiawa, 13 from Kwagira; willing to go only as far as Kwagira. The Kwagira V.C. says the Opaigwari people will carry us from Kwagira to Binigumi. It is not plain at this time how Ken's 50 loads will be moved.

Typewriters go into storage tonight. Have to limit ourselves to essentials from now on.

<u>Tuesday 5/12/53</u>: Left Baiawa 6:25 A.M. with five canoes, 14 loads of gear, our 10 Gosiagos, and 14 Baiawa carriers.

Dayman and Goropu mountain masses very clear. Mt. Victory under cloud.

Crossed lower end of Moi Biri Bay. Several small flocks of Torres Strait pigeons. Entered Moi Biri Creek 7:05; entrance very shallow; whole coast of bay mangrove fringed. A big brown python about 20 ft. up in a mangrove on creek bank. Creek very narrow and often arched over by mangroves; 40-50 ft. in widest parts, often barely 20 ft. wide and barely room for our outrigger canoes. The canoes scraped over several submerged logs. Mangroves mostly <u>Rhizophora</u>, fully 80 ft.high back from banks; adventitious roots hanging from some branches 50-60 ft. from ground. Slight rise of ground right bank and first garden (high) (?) 7:35. Garden house 7:45 (first house). Landing 8:00; left bank ca. 15 ft. above mud of creek; tide low. Carriers waiting at landing; 12 men and 4 women from Kwagira, 6 men and 2 small boys from Borovia. Scruffy lot; about 50% full grown or able bodied.

Leaving Baiawa V.C. Iagitoroto at landing with 16 loads to be moved later; left for Kwagira 9:00 at tail end of carrier line; Geoff and Van on ahead. Country low-lying and semi-swampy; much of track muddy; would be bad going after rain. At 9:25 junction with government track which goes round head of Moi Biri Bay. Crossed a deep little creek on a log and reached first high ground 10:00. Slight gravel ridge 10:05, several later. Reached Kwagira village 10:20. Aneroid 20 m. (alt. 5 P.M. 50 m.).

Vegetation sub-climax rain forest to near Kwagira, where rain forest second growths occupy old garden lands. A very tall <u>Saccharum</u> in grassy clearings and on river banks; alluvial soil along river; undercut banks ca. 15 ft. high. Gravel bars in bends; mostly grayish plutonic rocks.

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Leaving [illegible] [illegible] [illegible] [illegible] with 15 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

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About 12 houses in village, raised 4-5 ft. above ground; sago thatch. Coconuts (good) breadfruit, betel nut. Villagers sold us yams, taro and sweet potatoes for carriers. Good small rest house on bank of river; grand view of Goropu.

10 carriers from Maneau village turned up about noon. Ken was at Kwagira to meet us, having walked down from Binigumi.

Wednesday 5/13/53. Binigumi. Warm last night and this A.M. partly cloudy. Fine day.

Left Kwagira 6:20 with 45 carriers. Remainder of cargo left in rest house. Crossed river 200 yds. below village (not the Kwagira River of the maps); clear cool stream ca. 50 yds. wide and 2 ft. deep; myself carried across. Light weight an advantage in New Guinea travel. Crossed creek 7:20, ca. 30 ft. wide; Peria River 7:40 (50 yds.; beautiful gravelly stream; floods high; 2 palm-leaf shelters where someone had camped at high water). Crossed Duduru Creek 8:05. Reached Opaigwai Village 9:15, alt. 70 m. 10 minute rest here. Carriers stayed eating food cooked by villagers. Very deep gorge of Gwariu on west side of Mt. Dayman, a striking sight from village; glimpse of lower grasslands on mountain.

Reached Budmaga #2 Village 9:15, alt. 13 m. 10 minute rest. Binigumi 145 m. reached 9:45 (alt. 5 P.M. 190 m.). Binigumi close under mountain; will be our base for next three months.

Situation as regards carriers for mountain rather obscure. The local people will carry. Ken has sent word to Pumani at NE foot of mountain asking for extras. Geoff and I start up tomorrow morning with 8 Binigumi men and our own boys.

Busy afternoon getting our gear ready for tomorrow and making a final check of collecting supplies for the proposed top camp on Dayman.

Terrible din after our arrival this morning as Ken harangued assembled village constables and councillors re the trip up Dayman, the whole village and visitors joining in. Men mostly half tight on betel nut. Natives come from afar to trade for betel nut at Binigumi and neighboring villages. The coastal people bring mostly shellfish (according to Ken). There is also trade with coast people toward Cape Nelson, the people here getting cooking pots for string bags. Lime for the betel chew is brought in from the coast.

Many muddy patches on trail for about first hour. After that the land better drained, mostly alluvial, carrying splendid tall rain forest. Likely commercial value if the stands are extensive enough. Some very large Ilimo (Octomeles) trees; also Sloanea sp. Could not recognize other constituents.

Thursday 5/14/53: Slopes of Mt. Dayman. With 8 carriers, our collecting boys and Losima the #2 cook, Geoff and I left Binigumi at 7:10 on first stage of ascent. Clear cool morning; temperature at 5:30 65 degrees F.

Traveled parallel with foot of mountain eastwards and reached Ginum River 8 o'clock. Little ups and downs through mostly secondary rain forest. Ground very stony; stones and rocks look waterworn. Most of land formerly cultivated. Coconut, betel nut and sipora tree mark old village or garden house sites. Boys stopped to gather pepper leaves and stems (Popo) for the betel chew. Ground under scattered big Okari (Terminalia) strewn with big red fruits which contain a good edible nut. Paradise birds noisy in forest.

Rested 15 minutes at Ginum. Bouldery clear stream ca. 60 yds. wide; crossable from stone to stone. Long, high cascade falls to river on east side. Alt. 150 m.

[illegible]

[illegible] from [illegible] village [illegible]

[illegible]

Left Ranch [illegible] 8:10 with 40 carriers. [illegible] Crossed river 100 yds. below village [illegible] [illegible] Quimpua village [illegible] 70 m. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] 45 degrees F.

[illegible]

Reached 15 minutes [illegible] Alt. 150 m.

8:55 Start up mountain climbing along edge of cascade on slippery rocks. Rest 9:55, 370 m. on flatish open crest. Tall tree ferns in forest. Carriers started with two loads lashed together on shoulder poles; changed to single loads here. Slopes steep.

10:15. Hip-roofed native shelter of pandanus leaves; alt. 610 m. Ken's "Tea House." 30 min. rest.

At 11:00 rotting remains of another shelter. Carriers declared no water for 2 hours travel above this; This confirmed by our Jimmie who climbed the mountain with Ken, so decided to camp. Alt. 700 m. 2296 ft.). Hoped to get further. Climb very steep but weather and footing good. Geoff having hard going but could have done another 1000 ft. This I estimate would have brought us to top of escarpment as seen from Binigumi.

Tent rigged for us, fly for natives. Collected in P.M. 30 odd numbers of plants; mainly mosses, some small ferns. Rotten acorns of an oak on trail ca. 100 ft. above camp indicates change from rain forest to mid mountain forest. Fair amount of moss on logs and lower tree trunks.

Found soon after starting that an old man and his young wife had attached themselves to our party. Wife carrying a string bag with heavy load of food (?); put the rice drum on top. Old man soon had my gun from Sigamotu who was supposed to carry it; did the trip with Ken. Perhaps here to look after us or the carriers.

<u>Friday 5/15/53</u>: Camped at 1540 m. on the mountain. Only a dim hurricane lamp in this transit camp so notes must wait till later. A runner who arrived with mail today goes back to Binigumi first thing in the morning.

Friday, May 15, 1953: Slopes of Mt. Dayman.
6 A.M. temperature at 700 m. Camp 68 F., aneroid 690 m. Bright clear morning followed by clear sunny day.

7 A.M. Left 700 m. Camp. (Alt. 700 m.)

7:10, alt. 750 m. Entered midmountain forest dominated by oaks. Slopes more gentle; fewer gullies; fewer vines; ground plants mainly ferns; soil yellow, clayey; shafts of light strike down through clear boled trees fluted and suckered. A welcome change after the scraggy rain forest of lower slopes.

7:40, 900 m. Oaks smaller. A robust scrambling bamboo appears.

7:50, 970 m. Small pandanus leaf hut. Must be water somewhere near.

7:55. Overtaken by a runner carrying mails out from Baniara and forwarded from Biniguni this morning. These people travel fast when not carrying loads. Rested 15 minutes here.

8:15. Carriers resting place at 1030 m. Spent 10 minutes here.

At 1100 m. a curious fern with simple, forked leaves appeared on semi-mossy ground (continued up to ca. 1300 m. Collected. Carriers get water from bamboo stems; few mouthfuls of clear cool fluid.

9:15, 1280 m. Spur narrow and increasingly mossy; still oak forest.

9:30, 1330 m. Spur turns from S. to SE (+ _); slopes more gentle. Stream ca. 200-300 ft. down on right; sound of running water. Marked a tree here; may possibly find a camp site down on the stream.

10:00, 1430 m. Spur broadens greatly; east slopes. Oakes still principal trees; some with smaller leaves may be Nothofagus. Very big Sloanea trees all through this mid-mountain forest. Good deal of moss on trees and ground; ground on open crest springy with surface roots.

10:10, 1460 m. Rest 10 min. Fine tall forest.

10:25, 1490 m. ~~Rest 10 min.~~ Carriers (on ahead) resting at a pandanus leaf hut near small water in a gully to right. Spent 10 min. here.

10:45, 1540 m. Ken's #1 Camp. Oak forest of rather small trees on open crest. An old camp spot of natives. Good bit of scrambling bamboo around camp place. We stay here tonight. Water about 200 ft. below in a very steep gully on right or west side of spur. Rigged a tent and three flys to accommodate our bots and 38 carriers who are following us.

Our middle-elevation collecting camp may be located here. Room on the spur for a permanent camp, but water situation could be better. Spent some time exploring the neighborhood without finding a better site. Presence of Weinmannia trees in forest may indicate a change in general ecology.

The runner this morning brought word that 34 carriers and 3 women carrying rice were to leave Biniguni at daylight in charge of Interpreter Diwowon and overtake us here. They have not arrived.

Mist floating through tree tops off and on since time of our arrival this morning. Aneroid at noon 1545 m., at 6 P.M. 1540 m. Temp. 6 P.M. 65°F.

Saturday May 16, 1953: Fine clear morning. Temp. at 6 A.M. 58 F., alt. 1550 m. Some mist in tree tops later.

Sent runner back to Binigumi with mail at 7 O'clock, and with him 4 carriers we no longer need. Have boys up and down the trail opening it up for carriers with box loads. We must have some box loads, but they are hard on carriers on steep trails and I suspect they are the cause of the delay in arrival of the carriers.

Examined country in easterly direction from camp. Some steep little gullies but mostly easy ridges. Oak forest, many big trees, their bases mounded with a network of surface roots covered with moss. Forest looks over age here and slopes climbed yesterday; many dead standing trees and fallen timber. Much leaf and stick litter rotting on ground. Soft walking on this and thin moss and hepatics over surface roots. The scrambling bamboo abundant, climbing as high as 50-60 ft., culms fluish green and up to 1½ in. diameter.

Plenty of mammal signs in forest. Many small rootings and turning over of ground litter. A small clay pool in a gully puddled by some beast with tracks like the heel marks of a big wallaby.

This location for a collecting camp improved by my discovery of two small pools of water in a gully a couple of hundred yards east of camp and easy to get at. No sizeable stream close at hand, but we can hear a waterfall which cannot be more than a mile to the east(100 °)from camp.

Heard faint yells down the track while eating lunch of bully beef and rice at noon. At 12:20 the leading carriers appeared carrying my plant drying frame and a box on a pole. In all 38 men, 8 women, plus 3 village councillors without loads. The transport left Binigumi yesterday morning and camped somewhere on the trail. It is a day late but we have several loads more than we expected. The carriers in good fettle. Now babbling to beat the band while their rice cooks. People from Binigumi, Budmaga and Opaigwai Villages.

Sunday May 17, 1953: Another cloudless morning after a starry night. No rain since we left Binigumi on Thursday. Alt. 6 A.M. 1535 m.; temp. 58 F.

Carriers called at 5 o'clock, took over 2 hours to cook and eat their rice and it was 7:30 when we got away. Left a tent and fly rigged for the next relay party. Gosiagos ahead with knives and axes, opening up the track for the carriers.

7:45, 1600 m. Change in forest; taller, gloomier, considerable amount of tangled low bamboo. Acorns on ground. May be transition from mid-mountain oak to beech forest.

8:25, 1760 m. A small-leaved Podocarpus common in forest cassowary droppings. Hear water running below on right.

8:35, 1795 m. Carriers rest in small ferny opening (scrambling Sticherus). Pandanus leaf hut. Small-leaved heavy crowned big trees certainly beeches (Nothofagus) Xanthomyrtus (?) also, as smaller trees. Steady and rather east ascent so far.

Continued on at 8:50. Crest of spur up and down - mostly up - and carriers make many short stops. Running water below on right. Spur narrow.

9:20, 1900 m. All tall beech forest above the ferny opening; open underneath, little leaf litter, little moss. Phyllocladus a common subsidiary tree.

9:35, 1960 m. Carriers rest 10 m. on crest of spur in beech forest. A scaly-barked Dacrydium ? here.

10:15, 2020 m. Found Libocedrus in tall beech forest. Phyllocladus a common subsidiary tree.

10:25, 2050 m. First hoop pines (Araucaria) on crest of spur and ca. 100 ft. high. Beech forest. Bark hut (Libocedrus and Araucaria bark).

10:30, 2060 m. Carriers rest 15 min. in fine tall beech forest on fair sized area nearly level ground. Great clean trees, mossy lower trunks and mossy and leaf strewn ground remind one of the Joyce Kilmer National Park. A filmy fern characteristic ground cover; Dawsonia also abundant. Low undergrowth of scrambling bamboo in parts where trees have fallen. Small brook. Good camp spot.

11:10, 2150 m. Edge of forest reached after a stiff climb. Bracken slopes rather than grassland. Grey stands of great fire-killed Araucarias. Sad sight. Intense sunshine.

11:45, 2310 m. Highest point on trail. Grass and bracken spur. Forest in hollow below. Maneau summit ca. 2 miles ahead. Scene recalls partly deforested highlands in East Africa. Fire again. Grasslands at this altitude all secondary.

Noon 2220 m. Reached Ken's Top Camp. Well situated in a grassy hollow beside a forest fringed stream.

Some steep slopes today, but the carriers traveled well except for the usual tail-enders one expects in a line of 50 people.

Camp half rigged by 5 o'clock. Carriers helped. Some of them sleeping in old huts of Araucaria and Libocedrus bark hidden in shelter of the forest. Cold in the grassy hollow. Temperature at 7:30 P.M. 41°F. Alt. at 6 P.M. 2240 m.

Monday May 18, 1953: Temperature at 6 A.M. 43 F. Alt. 2230 m. Clear early morning. Broken mist clouds beginning 11 o'clock; drizzle and mist about 1-2 P.M.

Boys re-rigged work fly and made pata-patas in it. Then building themselves a bark shelter in the forest. Prepared 46 plant numbers collected on way up (mainly mossses) and started collecting here.

At 3 P.M. Van arrived with David and 7 Pumani men carrying a collecting box, his swag and foodstuffs. He left Biniguni at 11 A.M. yesterday and ca,ped the night where Geoff and I spent our fitst night on the trail (700 m.). Van has 90 traps set hurriedly in the forest tonight. In his party arriving today was the Biniguni village policeman.

Tuesday May 19, 1953: Clear cold morning; frost on grass in camp hollow; temp. 6 A.M. 30 F. Left camp 7:25 on ascent of Maneau Peak; with me Interpreter Diwowon (a Bonenau man) as guide, and my Gosiagos Bobi and Tomi. Reached summit 9:15.

Track crosses Atairo stream at camp then climbs very steeply through grass and stunted bracken to the crest of a razorback spur. This crest irregular in altitude; highest point - 2500 m.; very narrow - almost dizzily so in places. A step over the edge and one would roll down hundreds of feet to the edge of the forest. Whole upper valley of Gwariu River open to view. A lovely valley; lower slopes mostly forested; some grassy ridges and broad benches; stretches of grassy streamway. A small blue pond on a grassy shelf in the valley about West of camp and same altitude.

Ascent of peak starts from a saddle alt. 2430 m. Summit reached 9:15; alt. 2690 m. Alt. 11 o'clock 2700 m. Wynn made the altitude 2785 m. on April 12. This I should say more nearly correct.

Fine view of Collingwood Bay coast from west of Kewansasap to near tip of Cape Vogel (tip under cloud) and all north coast of Goodenough Bay. Top of Goodenough Island above a white cloud field (57°). Mt. Simpson (132°) very narrow on top and very steep. Jumble of peaks of the Goropu-Suckling complex a striking sight nearer at hand, a higher (?) grassy height showing beyond through the peaks. None of thest mountains are mapped. The Goropu-Suckling height especially confusing. Guise and Armit in 1894 reported having seen Mt. Victoria from somewhere around here, but I doubt it.

Clouds obliterated the lowlands before I could take bearings on known points. Baniara Island and Baiawa visible briefly, would have been good points for bearings to fix the position of Maneau.

Until today I considered Maneau and Mt. Dayman synonymous. If Mt. Dayman is the highest peak on "Maneau Range", and the height spotted 9800 ft. on the recent maps, it is not Maneau. Maneau is a high peak on the eastern side of the upper Gwariu Valley. At the head of the valley, to the south, are peaks called Gadmarau and Mana-man. Southwest (210 degrees) is Kakatun, the highest and most massive. Kakatun is the culmination of a long grassy spur ascending South along the west side of the Gwariu Valley. I take it to be Mt. Dayman. All foud peaks are parts of one mountain cleft to the north by the Gwariau.

The very narrow and not always distinct path we followed from camp goes over the top of Maneau and on to Bibitan Village (not visible; about 140 degrees on pointed position given by Diwowen. According to Diwowon, another track leads from Biniguni up over Mt. Tantama (Tantam of maps), through the upper Gwariu Valley, then between Mana-Man and Kakatun peaks and down to Abau. A third track starting from Muta (Musa River ?) to the north, goes west of Biniguni, ascends the Kakatun spur and drops down to Abau. I take "Abau" to be the south coast of that general area.

Two small grass fires were burning near the summit of Mana-Man Peak; lit by Bibitan people, according to Diwowon.

A smoke fire lit near camp by Geoff at 10 o'clock was on a bearing of 322½ degrees from Maneau.

Left summit at 11, collected on forests which reach to within 100-200 ft. of the top in gully heads, and arrived back in camp 2:15. Glad to get there. Legs conditioned to uphill travel, but not down hill. No water on peak. Face well sunburned - especially ears.

Kin, the #1 cook, arrived about noon with Bomara carriers, fresh bread and much needed cooking and eating gear. A good strong lot of carriers.

An unfortunate sequel to Van's arrival yesterday. He failed to check in his carrier loads as instructed by me. Result: a 35 lb. drum of rice disappeared into the carrier camp last night and was returned 1/3 full just as I started for Maneau. A good part of the missing rice was found in possession of the departing Binigumi V.C

From his 90 traps set last night, Van had a 10% catch of Rattus and Melomys (from forest).

Wednesday, May 20, 1953: Clear morning; heavy frost; temp. at 6 A.M. 38 F. Mist clouds overhead and sometimes in tree tops through afternoon. Night again clear and starry. Set up Max. and Min. thermometers under a Libocedrus bark shed this evening.

Morning spent in preparing remainder of 55 numbers of plants collected yesterday and starting my drying apparatus. Afternoon in field near camp. A good take, including Araucaria #   (= A. Cunninghamii ?) and the tree fern Cyathea #   , growing on forest edges and occasionally on the grassy slopes. At this altitude the Araucaria grows on slopes as well as on crests of ridges.

Ken arrived in camp about noon with 12 Wapona carriers and the last of the cargo for this camp. The end of a very successful, if sometimes rather doubtful looking transport operation. The Waponas according to Ken, are missionized and a scrounging lot.

Thursday May 21, 1953: Minimum temp. last night Zero C. Sunny bright and cloudless day; first without mist at some time over camp.

My morning spent in preparation of yesterday's take. Afternoon in the bottom of the gully close to camp. Collection mainly ferns and most of it still to be catalogued. Two big Marattia spp. and a small Cyathea collected. Most small epiphytic ferns too dried out to collect. The locality is rich in ferns. An unusual admixture of low and high altitude elements in the flora. Lowland elements include a Freycinetia, a small Pandanus, a small palm, a big tree fig, and a nettle tree (Laportea). High altitude plants include at least 2 spp. of Vaccinium.

Ken with two boys tried to open a track down into the Gwariu Valley. At 1800 m. came to a cliff several hundred feet high and had to turn back. This valley promises well for collecting in all fields and more work will be done to find a practical route into it.

Friday May 22, 1953: Max. 21 degrees, Min. 1.5 degrees C. Thin high overcast at dawn; temp. 45 F. Mist from about mid-morning to 2 P.M. Light rain between 12 and 1 o'clock. High broken clouds with stars and moon shining through tonight.

Work still goes on in making camp comfortable, boys when available improving living and working quarters. Big job today was on the boys' house. It was apparent that if left to themselfes to do it (in working time) nothing much would be achieved. Today Ken supervised. The roomy bark hut covered with a fly to make it rain-proof, was barked in at the ends, floored with bark, and grass stacked over the floor bark for bedding. With their mats over that and 4 blankets apiece, the boys should be comfortable in any weather. We have been most fortunate in having no real rain on the mountain to date.

The usual routine for me - preparing collections in the morning (to take advantage of the warmth of daylight hours for lamp-drying of materials), collecting in the afternoon. In two or three hours in the field I collect enough to occupy me next morning. Today I found my third tree-fern for the locality, a fine, red-hairy Dicksonia. Yesterday's take in forest ferns was 26 spp. Today I have at least half a dozen more. Orchids are here in fair variety but so far only 3 spp. have been found in flour - one of them a pink Spiranthes ? from the grasslands, an orange and yellow Dendrobium, and a nondescript clumped epiphyte in the forest.

Numerous rodents being trapped ; a Rattus in forest, another on grasslands; 1 (or 2) Melomys in forest. A big, very dark bfown Phalanger shor by Van several nights ago. Tonight Van bagged a beautiful Pseudocheirus, greenish gold on the back; and Ken shot a very different small species with almost black and white face.

Saturday, May 23, 1953: Max 20 degrees, Min. 4 degrees C. A relatively warm night and no one awoke this morning until the boy at length, at 6:30, opened the flap of the tent to bring morning tea. Scuds of cloud, occasional brief mist in tree tops, high light overcast tonight, ring around the moon. A definite change of weather. Rain soon.

Dryer overloaded with my extra pressure collecting. Did field work this A.M. and this afternoon began preparing material for preservation with formalin.

Worked down the gully from camp, descending about 100 m. Good travel along the widening stream, but the head of the gully has proved richer in plants. Dicksonia very plentiful as a tree fern up to at least 10 m. tall. Collected a big-fruited fig common as a large tree in the fullies. Many mosses. The variety in mosses and hepatics seems infinite; many beautiful species, the most striking being a Dawsonia looking like seddling conifers of some kind, and a magnificent epiphytic Spiridens (?)

Sunday May 24, 1953: Max. 21 degrees, Min. Zero C. Relative humidity 7 A.M. 72% before sunrise; noon 40% (bright sun). In this sheltered hollow sunrise is about 7:30, sundown about 4 o'clock.

While botanizing north of camp this A.M. I met a runner bringing mails. He left Binigumi at daylight and made the 7000 ft. climb in four hours. Fast travel.

Ken and Van with 3 boys succeeded in opening a track to the Gwariu River which can now be reached in 1½ hours or less from camp.

Two gunshots near camp later in the afternoon, and two blackish wallabies brought in by David. Definitely a forest wallaby, shot on the edge of the grasslands.

Monday, May 25, 1953: The second whole day without a cloud or mist over camp. Temperatures: Max 22 degrees, Min. 1.0 C. The coldest morning so far. Very heavy frost in camp hollow and slopes above. Bracken on the grasslands has been whitened and withered by the recent frosts. Water is frozen over in camp vessels. The tents have a rime of ice inside and out before sunrise.

Intense sunshine and virtual absence of clouds and mist for days is drying out the upper parts of the mountain. A result if grassfires, lit despite my warnings. Ken started it by firing some hundreds of acres of grass on the way to the Gwariu

yesterday. Today one of the bug boys started another small fire on the slopes across the Atairo from camp.

Such fires have demolished most of the forest above about 2100 m. on this side of the mountain. On burnt forest land a dense growth of fern (mostly bracken) springs up. Small second growth trees such as Dodonaea viscosa, Alphitonia, grow with the ferns. There is also a fairly abundany regeneration of Araucaria and Libocedrus. But in dry weather the fern is very inflammable and while man roams the mountain the forests will continue to recede. Fire is carried within the forests by an abundant coating of mosses and hepatics on the trees which dries very quickly when not kept moist by frequent mists and rains.

Spent the day looking after accumulated collections. Gathered a few plants near camp.

Results here very poor in insects and herps. One species of frog, one skink. Butterflies very few. Nights too cold and dry for nocturnal things to be about in numbers.

The mammal collection flourishes with 9, possibly 10 species. Today's additions a Pogonomys (beautiful little rat), and an unhandsome giant rat which may be Uromys Anak; the first trapped on grassland, the other shot in a tree in the forest. About 30 mallal specimens to date.

Ken departed for Biniguni at 8:30 A.M.

Relative humidity readings by whirling hygrometer 6:30 A.M. (before sunrise) 51%; 1 P.M. (bright sun) 58%; 5:30 P.M. (after sundown) 78%.

Tuesday, May 26, 1953: Max. 21 degrees, Min. 1 degree C. Rel. humidity: 6:30 A.M. 56%; 5:30 P.M. (thin drifting mist) 94%. Slight breeze up the camp hollow at 6 A.M., changing downhill before seven. Broken mist clouds from about mid-morning, coming from SW. Stars and nearly full moon dimly visible through thin high mist tonight.

Botanized down the forested ravine from camp to altitude of about 2200 m. Ravine widens somewhat and forest becomes taller (over 100 ft.) downstream. Also, the higher canopy lets in more light and undergrowth of Elatostema and an urticaceous shrub is very thick. Flora poorer than at camp level. Several ferns added to the collection, among about 30 numbers. A notable absence in ferns for all the forest I have seen up here, is Grammitis, usually abundant in forests of the higher Papuan mountains. The explanation probably lies in this being a relatively dry mountain. Since we arrived on the 17th there has been no more than a slight drizzle on two days.

Wednesday, May 27, 1953: Max. 21.5; Min. 1.5 C. Rel. humidity: 6:30 A.M. 77%; 5:30 49%. Clear on this part of mountain until about 4 P.M., then wisps of mist to dusk; warm wind coming up valley 7 P.M. Broken mist clouds driving up Gwariu Valley mid levels all morning; coming from ca. north, but probably deflected SE wind.

Left camp 9 A.M. to botanize in Gwariu Valley and returned 2:15. Followed trail opened by Wynn a few days ago. Instead of keeping on up the valley on grassy benches which offer good travel he struck down to the river too soon and

made a very steep descent of around 200-300 m. to the stream. In that lower part of the valley the Gwariu runs in a deep gorge. We should be able to open a trail to strike it above the gorge.

Collected in dryish forest on the upper slopes of the Gorge at ca. 2000 m. Virtually a forest of Araucaria, great ~~x~~ trees 3 - 5 ft. through at the base. Libocedrus abundant and up to 2 ft. diameter. Podocarpus #   a common dmaller tree. Galbulimima also collected. At upper edge the forest contains many small Araucaria and Libocedrus trees. These and rotten old mossy logs plentiful on the ground, suggest a regenerated forest. On this upper edge a Weinmannia which occurs elsewhere as a small tree in ferny regrowths, is the most abundant tree of the closed forest and attains a height of ca. 15 m. and diameter of 30 cm. Woody undergrowth and ground ferns largely different from those of the ravines. Forest easy to walk through. Sparsely mossed on trees, practically none on ground. Cassowary droppings abundant in this forest.

Thursday May 28, 1953: Max. 22, Min. 2 C. Warmest morning since the thermometers were set up. Only a light frost. Clear morning with gusty wind up valley. Mist off and on, from down valley after 12:30.

Preparation of the residue of yesterday's big gathering of plants kept me in camp to 10 A.M. Botanized after that in the nearer parts of the Gwariu Valley, just over the divide from ~~x~~ camp. Much scrambling fern (Gleichenia and Sticherus in dense tangles within forest margins. A fire hazard in weather still drier than this.

At 2:15 a policeman arrived with mails, 3½ days from Baniara. If ever I hear these Armed Papuan Constabulary called flat feet, my hat will be in the ring.

#1 cook down with fever (?) the past two days. Two field boys lame with feet punctured by bracken stubble on burned grasslands. #2 cook turned out an excellent batch of bread. The rubbery substitute sold by bakers in the U.S. will taste evwn less like bread after eating the product of our native cooks. The fathers of our boys used stone axes.

Friday May 29, 1953: Max. 21, Min. 4.5 C. Rel. humidity, 6:30 A.M. 88% (clear), 1 P.M. 89% (overcast), 5:30 P.M. 89% (wisps of mist). Warmest night and early morning for some time; soon overcast; mist in camp hollow and tree tops by 10 o'clock; short burst of sunshine in afternoon; clear tonight. Definite cloud drift from SE this AM; mackerel sky and pink afterglow at sundown. A few slight drizzles during day. Grass wet this AM.

Policeman left for Baniara 7:15 AM carrying mails. Seemed in a hurry to leave this cold country. He has from us 5 sticks of trace tobacco for smokes and the purchase of food en route.

The usual accumulation of specimens kept me late in camp and my collecting was done near by, mostly in the relatively low and well lighted forest of the slopes. Most interesting plants a sub-alpine type Rhododendron with small tubular red flowers, growing as a slender tree on the forest margin, and a splendid fern, Leptopteris, which may be a new species. It will not be out of reason to expect 10% new plant species from this mountain. Today I passed my 1000th collection number for the trip.

Trapped this morning was an Antechinus, the first phascogale for the collection. Mammal tally for the camp is 103 specimens of 10, possibly 11, species. Herps come in slowly: about 5 spp. of frogs and 2 of lizards to date. Best results in insects are from the beating sheet. Van saving a nice lot of ectoparasites (mostly fleas and ticks) from mammals shot and trapped.

Birds in this locality are very tame. In the forest especially when the mist is down, one can almost touch them in the undergrowth. Flocks of a tiny parrot feed in flowering trees. Every morning a bird of paradise (Astrepin) calls from the trees beside camp and flaunts its long ribbon-like black tail feathers.

Saturday May 30, 1953: Max. 18.5, Min. 6.5 C. Temp. F at 6:30 A.M. 47°. Clear early morning. Mist clouds by mid morning and where I was, drizzling rain beginning 9 A.M. Long, heavy showers thereafter and into night. Strong wind up valley about 7 P.M., blowing rain into the west end of the preparations fly.

Wishing to open up the upper Gwariu Valley for collecting, I took a risk on the weather and at 8:10 set out with my boys Tomi and Bobi and boss-boy Jimmy. Leaving Ken's track at 8:40 (alt. 2190 m.) I set a course of 160° to follow the benchlands of the east side of the valley and a point where the Gwariu turns westerly toward Kakatun Peak. Clouds low over the Dayman peaks, but these and Goropu clear. A solitary small quail flushed from the grass.

From Kim, trail 20 minutes travel over grass and fern (mostly burnt) brought in to forest in a broad depression, which took an hour to cut through in light rain. Alt. 2000 m.

Five minutes across a patch of fern and grass, then cutting trail through forest till 11 o'clock, when heavy rain began pelting down and we sheltered under a big Pandanus tree. Lit a fire among the pandan stilt roots. Broiled the tea billy and boys cooked rice. Alt. 2200 m.

Glimpses through the forest after the rain took up indicated more heavy cutting ahead on steep slopes, but an apparent opening in the forest below us to the west in the direction of the river.

Left the lunch camp 12:30. Made for the opening and found a long grassy slope. Followed this down to 2160 m. and in 40 minutes from the lunch camp reached the bed of the Gwariu at 2050 m. Descent through forest from the ~~Gwariu at 2050 m~~ grass patch to the river not unduly steep and footing good.

Where we saw it the river ran in a deep ravine narrow and steep enough to be called a gorge. Stream about 30 ft. wide, flood banks thrice that. Picturesque rocky bed, small gravel bars and banks, edged by moss covered trees. Big rocks covered with bryophytes, and trailing plants such as Geophila, Galium, Geranium.

Spent an hour and 10 minutes botanizing on the river banks. River crossable by stepping from stone to stone. Water cold. Two of the

boys bathed in it. Back in camp at 3:50. Journey of 90 minutes without halt, more than an hour of it in heavy rain. Throughly wet, but thick woolen shorts kept us reasonably warm.

Here and there in the forests wherever we went today there were occasional cut stubs of undergrowth. Natives from below the mountain no doubt make seasonal visits to collect the fruitheads of a large Pandanus which grows in the forests up here. The individual fruits contain a solitary big seed. The tree (and nuts) called Anai by the Daga people of Biniguni, Tangata by the Daga of Bonenau. Said to ripen about October. Pandans of this type are planted by the mountain natives of Central Papua and Dutch New Guinea to my knowledge, and probably elsewhere in the country.

Sunday May 31, 1953: Max. 19°, Min. 8°C. Very heavy, sometimes squally rain began about 6 last evening and light rain was still falling at 10 P.M. Water ran through the bark cookhouse and across drainage ditches into the preparations fly. Ground very wet this morning but by afternoon most of the excess water had seeped away. Mist and occasional light rain throughout day.

Had the boys build a protecting porck of bark on the weather end of preparations fly and deeper drains. Other boys getting in a good supply of firewood in preparation for more wet weather expected. no field work.

Spent most of day preparing about 50 numbers of plants collected yesterday and still have many on hand. Only one drenched rat in traps last night. A splendid harvest of insects caught in light traps in the tents during the rain. All three of us busy with killing bottles picking moths from walls and roofs of the tents.

First bat for the camp(a Miniopterus) shot in the mist by Van last night. Two nights ago the first phascogale (Antechinus) came from traps.

Monday, June 1, 1953: Max. 19°, Min. 7.5°C. Third consecutive morning without frost. Clear early, soon misty. Short breaks in the mist throughout day and brief spells of sunshine in afternoon. Weather appears to be taking up.

Poor day for field work, but Geoff caught his first butterfly for the camp, a small white, black and yellow species, found wet in the grass. Van getting his eye in on bats: two more Miniopterus this evening for three shots.

A remaining dryer load of specimens collected two days ago kept me occupied most of the morning. Botanizing in the mist yielded 15 numbers, including 3 mosses - the smallest gathering I have had here in a day.

It may not have been recorded in these notes, but after summing up possibilities for collecting on the mountain, I decided on 5 weeks for this camp, 3 for the 5300 ft. camp, and 2 for a camp lower down in the oak forests. Provisioning for this camp was for 4 weeks. It

was generous enough, however, to do for 5 weeks, with the exception of basic supplies such as rice, meat, sugar and a few odds and ends which should arrive within a few days. An item miscalculated was matches. We will have enough with care and economy. Today in camp we are lighting our hand rolled cigarettes at the cook's fire. Since Geoff ran out of his Chesterfields and I my Herbert Tareytons early on the trip, and he began rolling State Express Ready Rubbed and I Champion Fine Cut, smoking early morning noises have very noticeably diminished. The boys, on black trade twist rolled in newspaper, do not cough.

Tuesday, June 2, 1953: Max 19.5°, Min. 4.5°C. Clear until about 1 o'clock, then mist off and on through afternoon. Hot sun brought on a lazy feeling after several raw days.

Botanized a little way up the Gwariu Valley at about the 2280-2300 m. level. Mostly forest trees, including an Ilex, a Schizomeria, Rhodammia, of the canopy layer, and a curious small-leaved euphorb of forest edges (Croton?).

Geoff got today his second specimen of a very small red crustacean about 1/2 inch long, which lives in moss in the forest.

Had a native visitor in camp, a brother of Diwowon, from Bonenau. Wearing a cloth breech clout and broad bark belt, a striped lava lava turbaned on his head and carrying an axe with long handle of black palm wood. Light complexioned man, active, and of good physique. Member of a hunting party camped 2 weeks on the mountain, somewhere on the west side of the Gwariu River. They hunt with dogs: wallaby, tree-climbing kangaroo (6 for the trip), and yesterday two big echidnas. Build benches of bark and light small fires under them to smoke cure the meat. Van asked the man to bring him tree-climbing kangaroos and echidnas, neither of which has been taken by our party.

Wednesday, June 3, 1953: Max 21.5°, Min, 4.5° C. Light frost on grass. Clear morning until about 11 o'clock. Then mist. Drizzling rain 12:30 to 5; clear but raw tonight.

Botanized in the beech forests down the Biniguni trail to an altitude of 2050 m. Mist down there earler than at camp. Visibility poor in the tall forest. Cound recognize the beeches only by their large size, and bark characters. Found under them the fallen flowers of 2 spp. of Rhododendron (carnation-scented white, and a pink) which grow as epiphytes, but could not see the plants on the trees.

About 9 o'clock I heard the yells of natives some distance off the trail in the ravine of the Atairo stream, and thought it must be ahunting party. At noon, when ~~the way back to camp~~ on the way back to camp, we met six Biniguni natives in the beech forest, returning home after delivering loads of foodstuffs at our camp. Back in camp I found a long letter from Ken which had been opened and read by Geoff and Van, but not acknowledged. So in Biniguni tonight Ken will not know whether the stores he sent up were delivered or stolen. Happenings like that give one a lonely feeling.

With the supplies were a few sweet potatoes and yams, and a sack of betel nut and pepper roots for the boys. The leaves and bark of the stem and roots of a pepper (Piper) are chewed with the betel-nut

The boys have a little sing-song in their bark hut every night. This evening it sounds especially carefree.

Disturbance in the boys' quarters and a gun shot awoke me at midnight last night. A rare giant rat, Hyomys, shot by David.

Thursday, June 4, 1953: Max. 22°, Min. 4.5° C. Clear A.M. Mist from ca. 12:30 to mid afternoon and some drizzle. After that high cloud drift from SW; in evening mist. Clear tonight.

Spent day in camp working on collections and writing letters. Expected a mail runner before this.

Rel. humidity 6:30 A.M. 93%, noon 66%.

Friday, June 5, 1953: Max. 22°, Min. 5°C. The warmest morning for some time, followed by a clear day entirely without mist (the first we have had here, I think).

Took lunch for a long day down in the beech forests and was only half a mile from camp when I met a Biniguni councillor and a carrier with a load of wheat meal, coming up the trail. They left Biniguni yesterday. Councillor opened a tobacco tin and presented me with a stiff note from Ken asking acknowledgement of stores which arrived two days ago. The bag of meal was not needed here. Took the opportunity to send down three bundles of dried herbarium specimens.

Later in the beech forest zone at 2000 m. I collected my first Nothofagus for the trip. A magnificent straight thickboled tree which dominates the forest below about 2100 m. Phyllocladus grows to large size(about 4 ft. dia.) on ridge crests in this forest. The beech of the group with nuts solitary in the cupules, and almost certainly a new species. No previous record of the genus east of Kokoda Gap. Have recently seen a MS copy of Van Steenis' extensive treatment of the genus, in which 16 species are described for New Guinea, mostly from my earlier collections. I was the first to recognize Nothofagus in New Guinea back in 1933.

A quarrel in the boys' camp last night. Subsided when I called a stop to it. Probably betel-nut had something to do with it. The first ruckus on the expedition.

Saturday, June 6, 1953: Max. 21.5°, Min. 6.5°C. Rosy dawn over the eastern heights and a wild, cloudy sky. Strong wind from NE. Sun and cloud about 50/50 through day. Relative humidity 6:30 A.M., 94°; noon 67° (both clear sky); 5:30.

Geoff and Van with 8 boys who had not previously been there, made the ascent of Maneau Peak. Left at 7:15 and returned 2:15 throughly sunburned. Poor visibility only Mts. Simpson, Suckling and Goropu could be seen from the summit. Their altitude for the top 2725 m. by aneroid.

Van set 60 mouse traps in forested gullies within a few hundred feet of the summit.

My day spent in camp working on yesterday's plants.

Sunday, June 7, 1953: Max. 22, Min. 9 C. Very heavy dew wetting the grass - and travelers through the grasslands - as always on clear mornings. Occasional high mist toward noon. Clear sky afternoon and evening.

A long expected runner arrived this AM with mails from Baniara. Letters from the U.S. dated as far back as April 18.

A rare prize for Van in one of the traps set high on the mountain last night: Eudromicia, a pygmy possum seldom collected in New Guinea. A number of rats were of a grey-bellied species common at camp elevation.

Botanizing in the beech forest and down the Atairo stream gave exceptionally good results, including a tree of the Vacciniaceau with rotate green flowers which I am unable to place to genus, and my first gathering of Grammitis on the mountain. The Grammitis group are ferns of wet, misty mountains. Their rarity here indicates for Mt. Dayman a dryish climate for a high mountain in New Guinea.

Monday, June 8, 1943: Max 21, Min. 8.5 C. Dull, threatening early morning; burst of sunshine toward noon; blowy rain from N 11:30 - 2:30. Fairly clear tonight.

A poor day for field activities. Fortunately my yesterday's gathering of 43 members kept me busy most of the day. On handling the plants again I think I have a third (new) species of the theaceous genus of trees Archboldiodendron.

Tuesday, June 9, 1953: Max. 19, Min. 8.5 C. Mist from about noon to 2 P.M.; otherwise a clear day. Mist from up valley: unusual here.

Set out to botanize along a trail which Ken cut in an attempt to reach the Gwariu soon after the establishment of this camp, but did not go far. Hurt my shoulder two days ago. Giving myself a backward push against a sapling held in my hand to avoid a fall when I lost footing on a steel slope, I partially dislocated the shoulder. Felt the joint leave its socket; afterwards some pain, now stiff and sore. Arm useless even as a balancing aid. Therefore will have to keep to the less steep ground for a few days.

Still, I found some good plants, including a second species of Grammitis. This a very small fern growing on mossy log, never, apparently on nearby mossy roots and bases of living trees.

Hunter Jimmy given some heavy shells this morning and told to try for a cassowary for fresh meat. Brought in instead three beautiful little rodents taken from a hollow tree. Probably Pogonomelomys, says Van. A very good addition to the collection and the 14th mammal species for this camp.

Light traps have yielded Geoff fair catches the last few nights. Butterflies very scarce - only about 1/2 dozen species for the camp. When adulthood comes for white-hairy brown & black caterpillars which infest the camp, crawling on tents and into everything, some medium-sized butterfly or moth should be plentiful.

Wednesday, June 10, 1953: Max. 23°, Min. 7° C. Clear till 10:30 then mist for an hour. Mist again from about 4-5:30. Clear evening.

Botanized on NW on a high spur 3400 m. on the crook of the Gwariu Gorge toward Goropu. The spur crest covered with grass and bracken. Poor mossy forest on upper slopes; largely Decaspermum; Libocedrus and Phyllocladus plentiful; smallish Araucaria(80 - 100 ft. high) protruding above the canopy. A second tree composite (Olearia) collected in regrowths where the edge of the forest had been burned.

Six more of the Pogonomelomys, or whatever it is, taken from a hollow tree in the forest by David. A small hole in a tree trunk, apparently about 20 ft. from the ground and leading into a sizeable cavity, was their home.

Thursday, June 11, 1953: Max. 23, Min. 11 C. A driving drizzle from down valley began some time before last midnight and continued until 2 P.M. today. Clear tonight.

Morning too wet for field work other than running trap lines. Gathered a few plants near camp in P.M., including the first Selaginella for the locality.

Now its haunts are known, Pogonomelomys (apparently Pogonomys on Mammary formula) is coming in fast. Six more this afternoon, cut from a hollow in a tree about 40 ft. above the ground. Heard a rustling of leaves on outskirts of camp while warming my hands in the cookhouse: a Uromys Anak shot by Van. The 200th mammal for the camp.

Friday, June 12, 1953: Max. 22°, Min 10 C. Rosy morn. Showers from NE began 12:30 P.M.

Set out by "Jimmy's" track down the Atairo ravine but soon turned back. Unable to negotiate the steep slopes with only one arm to balance with and one hand to hang onto trees. Concentrated on small herbs of the grasslands and sent the boys into the forests on their own. Good results from both habitats. My grassland plants included a dwarf scroph. and a dwarf alpine sedge which may prove very interesting. The boy's bag held several new ferns from forest gullies and a subalpine Vaccinium from mossy forest margins.

Our first fresh meat in a month (boys have been eating wallaby and cuscus). A megapode caught in a mammal trap. Some sort of big pigeon shot by Jimmie. With rice and onions they made excellent stew.

The megapode was of the "scrub-hen" type. Have seen their scratchings in the forest, but not their nesting mounds. Nor have I heard the unmistakable megapode calls.

Saturday, June 13, 1953: Max. 21, Min. 10° C. Was awakened at 3 A.M. by rain on the tent. Light rain which had continued intermittently through the day and into the night, drifting at various times from all points of the compass. Rare bursts of sunshone.

Normal collecting activities at a standstill for the first full day on the whole trip. Beginning with the new moon on the 11th, this spell of rainy weather is in its third day. Bad weather in the mountains often comes in the "dark of the moon".

One of the common sounds of the wild here is a frog call which when coming from several of the creatures, sounds for all the world like concerted cackling in a distant fowl yard. Between showers this morning, Van applied himself to the discovery of the frog concerned. The source of sound difficult to pinpoint, but eventually, with the help of the cook, one of the noisemakers was uncovered from under about four inches of loose humus in a raspberry tangle bordering the forest. Three more specimens subsequently captured by Losima, the energetic #2 cook, reddish brown and about 1-1/2 inches long, the frog has a row of short spines outlining the jaws below.

Some of my time spent in trying to net dragonflies which hawked for insects in the camp hollow in sunny spells between rains. Single individuals of a largish species which flew like Anax, and a small blue-black kind. No dragonfly or damselfly has been caught in this locality to date. They are seldom seen.

Sunday, June 14, 1953: Max. 21°, Min. 9°C. Morning clear but for high broken thin clouds. Showers heavier than yesterday's, began at 11 A.M. Fairly clear tonight. Misty rain after 9 P.M.

Botanized on the grasslands near camp where walking is easy, and recollected several herbaceous spp. previously taken near the summit of the mountain. Sent the boys to the upper slopes of the Gwariu Gorge with fairly good results, among them a 4th species of Helicia for the locality, and the birds'nest fern Asplenium nidus, which on this mountain reaches the upper limit of its range at about 2100 m.

Lured by rat bodies, a marsupial cat (Satanellus Albopunctatus ♀ formerly Dasyurus) was trapped in camp last night. Delousing gave a good crop of ectoparasites for Traub in Washington.

Monday, June 15, 1953: Max. 22°, Min. 7°C. High thin cirrhus clouds with the colder morning. Intermittent mist after ten o'clock; light shower at noon; otherwise a fine day.

As it seems unlikely that I will be able to do any hard travel in this, our last week at this camp, I sent my boys down into the Gwariu Gorge and spent the day making and developing black and white photos. Am reduced to one camera for both black and white and color work. My Leica developed shutter trouble and I started it on the way to Australia for overhaul by last mail runner.

Temperature of water in the camp stream 56° F. Therefore necessary to heat water in the sun or on the fire for photographic purposes.

With my two boys went Jimmy the hunter and the two bug boys. They had rice to cook for lunch and as a special treat from our now slim stocks, a can of bully beef. The party followed my track which hits the river at 2030 m., and returned to camp at 5 o'clock. No mammals. Two butterflies new to the collection, plus species of large bettles which are already over-collected. Plant results not up to expectations, but complete material of a big palm (Orania) were well collected. The boys do well for their 3 months of training. There is no real way to collect plants but in person.

Tuesday, June 16, 1953: Max. 22, Min. 4.5°C. Bright crisp dawn. Clear most of day in camp. Down in the beech forests at 2050-1950 m., light rain began at 11:48 and mist and drizzle continued until 2:30, when I climbed out of the zone.

Attention to yesterday's plants kept me late in camp. Was accoutred to leave at 10, when a carrier and a small boy arrived from Biniguni, having spept at our embryo camp at 5300 ft. Ken wrote that he wishes to move us down to #2 (5300 ft.) Camp Saturday morning. Has Borovia people ready to do the job then. Our fresh stores from Samarai were landed at Baiawa by the "Ruru" on the 10th. Thinks that in recent transport from the coast the carriers have been stealing rice from unsealed drums.

Took the opportunity to send two more bundles of dried plant materials down to Biniguni.

Stimulated probably by the rains which began May 29, many plants of the forest are now coming into flower. Have been collecting numbers of orchids lately. A tantalizing group. There are so many species, mostly small and inconspicuous, and so many of them can be collected only as single plants. Schlechter has been criticized for describing 2300 orchid species from New Guinea, and doubts thrown on the value of his work. His critics would do well to botanize in the mountains and see for themselves the astounding abundance and diversity of the family.

Wednesday, June 17, 1953: Max 22, Min. 2°C. Heavy frost on the grass; the first for many days. Clear fine day in camp. Gwariu Gorge filled with mist cloud in late afternoon.

Worked on collections in camp and sent two boys to search through a gully patch of forest high on the opposite Atairo slopes which I had not examined. Results small, but among them a large-flowered tree of the Elaeocarpaceae, with dehiscent fruits, which may be anew genus. I found fallen flowers of the tree yesterday, but the forest was so full of mist that I was unable to find where the flowers came from.

A big molossid, free-tailed bat (*Otomops*?) shot by Van at dusk. The old story of things very good turning up when one is about to vacate a camp and has slight chance of getting further specimens.

Thursday, June 18, 1953: Max 22, Min. 2°C. Heavy frost followed by a bright day without mist or cloud, which is out of the ordinary. A temperature high of 24.5°C - 1.5 ° above the previous record.

Finished collecting for this camp, apart from what light traps yield in insects and steel traps in mammals tonight. Packing of collections, gear and surplus stores has begun.

Friday, June 19, 1953: Max. 24.5, Min. 2°C. Clear frosty morning: some high thin cloud through most of the day. The northern slopes below us hidden in beautiful white clouds this afternoon.

No message having been received to the contrary, I assume that Ken was able to get the carriers he needed & will be here in the morning to move us down to the 154 m. camp. Sent a boy (Billy) down to meet him, & watch camp tomorrow.

This 2230 m. camp has been very satisfactory for collections. Van in 30 days has a total of 270 mammals of 18, possibly 20 species, most of them in good series. Geoff's take was 132 reptiles and amphibians, and around 500 insects. The tally in plants is 752 numbers (including 173 bryophytes), 2533 herbarium sheets of vascular plants. In plants it would not be unreasonable to expect 8 to 10 per cent new species. Probably it will run over that.

Saturday, June 20, 1953. A bright, hot day for our move down to #2 Camp. Too dry in fact, for the carriers on their way up set fire to the fern and grass and transport was held up for the best part of an hour by the resulting conflagration.

~~A bright, hot day for our move~~
Supervised the breaking of camp. Had the 40 carrier loads set out in line, then started down the track with my two boys to botanize on the long stretch of slopes between the two camps. Left Top Camp 8:45 and arrived #2 Camp 1 o'clock. The whole party there by 2:30. Some of the carriers went on to Biniguni immediately, taking six loads of specimens.

Had arranged for a native hunter to join the party at this new camp and on arrival found 2 big blackish cuscus hanging on the tent pole. The hunter was elderly, small and wizened Councillor ________ of Biniguni who brought two dogs and his wife to carry food for the dogs. (New Guinea dogs live on a diet of sweet potatoes, etc.). A good start, but what we really want is tree-climbing kangaroos and the big spiny ant-eater (~~Zaglossus~~).

Sunday, June 21, 1953: The main work of rigging camp completed. We have two tents, preparations fly, cook's fly and boys' fly. Ground very uneven on the narrow spur crest, but poles and lashing material plentiful. The small gully pools which supplied us with water five weeks ago when we came up the mountain have dried up, but a good and slightly more distant supply is available. New Guinea people think nothing of carrying water up a steep slope of a coupld of hundred feet.

Van could hardly contain himself when this morning the councillor brought in a fine big brown tree-climbing Kangaroo, plus a brown ringtail (Pseudochairus) new to the collection.

Have decided to call this the 1550 m. Camp.

Monday, June 22, 1953: With Ken and four boys went down the trail to pick a spot for a #3 Camp. This is the dry season and water is the difficulty in selecting a camping place on the lower parts of the mountain. Hoped to find a supply at 1100 - 1000 m. A noisy stream off to the east of the trail, but it flows in a gorge and is out of practicable reach. Our #3 Camp must therefore be at 700 m., where Geoff and I spent a night on the way up the mountain. This will be a suitable place biologically - in the contact zone of oak forest and rain forest - but the water supply is small and rather doubtful.

Collected some 40 odd numbers of plants on my way back to camp. An almost complete botanizal change from our 2230 m. Camp. Probably only a few ferns present in both localities.

Thanks to the councillor and his dogs, Van now has his much-desired Zaglossus.

A blackish-brown beast, it is much smaller than members of the group seen to be in general.

Tuesday, June 23, 1953. Camp activities now in full normal swing. Insects not turning up very well. Mammal department prospering with seven species for the locality to date, and a second tree-climbing Kangaroo today. Have more plants on hand than my drying apparatus can cope with.

A sprinkle or two yesterday. Steady light rain all this afternoon and into the night. Now we have camp established it does not matter. The weather has been good to us.

Wednesday, June 24, 1953: Max 25, Min. 12 degrees C. Maximum reading doubtfully correct; must have a better thermometer house built. Last night by 9 o'clock the rain and mist had ended and stars could be seen through the tall oak trees around camp. An up-hill air drift this A.M., bringing mist at noon and drizzle lasting into the night.

Ken and the councillor left for Biniguni early in the morning. Mail sent down to go to Baniara per Medical Orderly Frank who starts the journey tomorrow.

Wrote Capt. E. Smith of Cape Vogel, owner of a small vessel, to inquire whether we can arrange a charter to move us to Samarai, leaving Baiawa Sept. 10.

This morning's field work produced the usual plethora of materials from a new locality. Many ferns, and a big-tree *Metrosideros* whose orange-red flowers make a blaze of color in the forest.

Now that European food supplies are more plentiful and more varied, the fare is becoming indreasingly English. With baking powder, which Ken omitted to send us previously, and dried apricots which were on order for 3 months, Kim has produced excellent tarts. This evening the pastry feature was meat pie (bully beef, dried peas and sweet potato).

Thursday, June 25, 1953: Max 22, Min. 11.5 degrees C. Weather cleared before 8 last night. Mist in camp from 1:00 to 1:30 P.M. Otherwise a clear day.

Worked on the east side of the camp spur to the edge of the deep valley of a sizeable stream which must be the Atairo. Proceeds included a remarkable nest fern with long narrow leaves (#   ), a giant *Gleichenia* 10-12 ft. high, and two palms (*Calyptrocalyx* and *Linospadix*.

Geoff with his two boys this afternoon started to cut track to the Atairo (?) and got to within short distance of it, 5 ridges east of camp.

Mammal species for the camp now number twelve. #11 and 12 came in since 4 P.M. *Antechinus* caught by hand as it ran on the ground in daylight, and *Pogonomys* sp. grabbed from a tree by David when returning to camp tonight after shooting two species of *Pseudocheirus*.

Mammal #13 came in after I went to bed - *Hyomys*, shot from a tree by David.

Friday, June 26, 1953: Max. 23.5, Min 15 C. Clear early A.M., and no mist in camp until 1 P.M.; about 2 hours of drizzle and mist after that. In a gully to the west, at ca. 100 m. lower altitude, mist frequent during the morning, and

occasional light rain.

Collected in the water place gully. A bag of over 30 spp., but nothing out standing, and all hard to find in series.

Geoff completed his trail to the Atairo stream striking it at 1370 m. Distant about an hour from camp. Reports a stream about 12 feet wide, rapid and with pools. Brought back for me a white Impatiens with the biggest flowers I have seen on a wild balsam (6 cm. long).

This evening it appears that the mystery of the "6 o'clock cricket" has been solved. Every evening and every morning in the mountains, within 10 minutes of six, regardless of weather conditions, there are strident chirrings in the forests of the New Guinea mountains. I remember the chorus as high as Murray Pass (10,000 ft). There are similar sounds, equally regular in the mountains of Cape York Peninsula. This evening the maker of the noise was picked from a tree trunk in camp. A very big cicada, 7 cm. long; eyes green, front of thorax mahogany-red, veins of wings green tailing off into brown. Watches are set by the sound of the "crickets". In the old days the miners working small crews on gold, started their boys with the call in the morning and in the evening it was the "knock-off" signal. We still have to check tonight's observations with captive insects.

Saturday, June 27, 1943: Max 23, Min. 15 degrees C. An old-fashioned wet day. Heavy rain began at 5:45 and with brief spells continued all day and until after seven this evening.

Having trouble with light weight rubber coated nylon flys bought in New York. Poor workmanship.the trouble, rather than the material. A double rig necessary to keep the boys' quarters dry. The boys have a pot of bovril boullion to go to bed on tonight.

Our first mail since the 7th, arrived about noon, safe and dry in an old Australian Army haversack carried by a Biniguni native. The native was an old acquaintance, but washed clean of grease and wood smoke stain and with the golden brown of his skin accented by a new tapa breechclout figured in yellow, he looked like another man.

We all had good news from home. We learned of the conquest of Mt. Everest and Mr. Rhees' headstrong course in Korea; the jittery stock market, and what the coronation looked like on TV. Much of the mail carrier's load consisted of collecting kits for antibiotics research materials sent by Chas. Pfizer & Co.

Sunday, June 28, 1953: No temperature records. The pack-cloth roof of my thermometer house went yesterday to help screen in the weather end of the boys' fly. Light rain on and off from midnight to late afternoon today. Half clear sky tonight.

Collected down the trail about 100 m. alt., part of the time in rain, and in about two hours brought in 34 species. One of those lucky days. One find followed another in an area already gone over hastily. Finally, in the rain, I had a small tree cut down for a fern which grew on its upper trunk. I found on it three species of ferns ~~hm~~ hitherto uncollected, four mosses, an orchid; and in its fall the tree brought down a smaller one new to the collection.

Leeches active in the forest after the rain. My boys have been scraping them off their feet with their big knives every day we have worked in gullies and damp hollows. Even today their numbers are few. As in the central and western parts of the country where these loathsome pests are much more numerous in my experience, the leeches here are ground dwelling. They stand on end on the ground humus waving back and forth in readiness to attach themselves to a blood supply. Scrub itch, strangely, is not nearly so troublesome here as in the forests at our top camp on the mountain.

The effects of the damp to wet weather we have had at this camp are becoming noticeable. Clothing washed days ago is not dry. Pinned-out mammal specimens stay as lax as when they were pinned. Moss specimens are flourishing on a drying rack under the peak of my tent. Mold is showing on the few leather articles we have.

<u>Monday, June 29, 1953</u>: Have had built a new thermometer shelter thatched with the long, broad leaves of a bird's nest fern (<u>Asplenium Nidus</u>). Do not recall that during the war any of the survival boys hit on this as a thatch material often easily available in the Malaysian region.

Weather much as yesterday. Most of the night is clear and moonlight. Hardly any sun during the day; sporadic mist and scattered light showers; increased mist and more rainy in afternoon and early evening. Gusts of rather strong wind this PM after 5 o'clock from easterly direction.

Yesterday's good fortune was not repeated in the botanical field today. Worked in a wide semi-circle east, north and west of camp for poor results. Most interesting things were a medium sized pandan which is probably a new species, and a small shrub <u>Rhododendron</u> with red flowers growing high on a tree.

Geoff has his boys out with headlamps tonight hunting for frogs. Several species very vocal these nights.

<u>Tuesday, June 30, 1953</u>: Max. 20 C., Min. 14.5 degrees C. The thick weather continues with mist, drizzle, occasional heavier showers and rare, brief appearances of the sun. The half peaty humus layer in camp mired by our tramping.

Botanized up the trail to about 1650 m. Visibility poor; results likewise.

Found Ken in camp when I returned after noon. He brought a small local mail which arrived by police runner from Baniara yesterday. Reports much rain down at Biniguni. He was out on an echidna hunt with local natives, and camped six hours up the Mai-U River when the rain began early in the morning of the 27th. Rain stopped the hunt and party had difficulty in crossing the rising river to get back to Biniguni. The hunt stimulated by the good pay given the councillor (   ) for hunting on the mountain (30/- for a <u>Zaglossus</u>, two tree-climging kangaroos, and several cuscus and <u>Pseudocheirus</u>). It is hard to establish standards of payment for such things as mammals which are highly valuable to us. This time it was too high.

A second 6 o'clock cicada caught this evening. It flew into one of the

tents. I have it alive in a lamp carton. No noise from the creature this morning, nor from those free in the fbrest, except for one belated call at 6:15.

Wednesday, July 1, 1953: Max 20.5, Min. 14.5 degrees C. A change in the weather. The only sunshine today was for a few minutes beginning at noon. Very few drizzles and short spell of mist about 5 P.M. At 5:30 a golden afterglow visible through the trees in the direction of Binigumi and Goropu showing blue in the west. Some dim stars this evening.

Unable to tackle the steep slopes down to the Atairo Stream myself, I sent the boys there and wrote the mid-year report due ONR. Discovered only at the beginning of the week that I do not have with me the ONR instruction on making reports. I took it out of my files at Baiawa and must have left it loose in my box.

The boys brought back about 30 spp. mainly rain forest elements not hitherto collected on the mountain. Several of the species present in the gully at our Top Camp. An unusual small tree fig which resembles Dammaropsis and may belong in that genus. Also a Grammitis with leaves 70 cm. long.

Thursday, July 2, 1953: Max 20, Min. 15 C. An equable climate in all respects. The daily lousiness continues though admittedly with fleeting promises of something better. A colorful dawn; then mist, drizzle, longer bursts of sunshine than for days, followed by steady rain, 2:45 - 4:30. Half clear tonight.

Concentrated on the bigger trees this morning and collected two oaks, a Gordonia, and Engelhadtia, the latter always in my experience found associated with the oaks of the mid-mountain forests. I'm not so sure now that the major dominant of these slopes, which I have been calling an oak, is an acorn bearer. It may be Castanopsis. Have only found it in flower. The genus is regularly associated with Oaks in New Guinea, but hitherto I have seen it attain dominance only at the lower edge of the community. We are 700 m. above the beginning of the mid-mountain on these slopes.

A rather weary, or unenthusiastic native armed constable arrived this AM with home mails sent through from Baniara. Spoke of big rain and flooded rivers below.

Ken left this morning early with two boys. Will do some preparation of #3 Camp site on his way down to Binigumi.

Friday July 3, 1953: Max. 20.5, Min. ,14.5 degrees C. A promising morning followed by mist, drizzle, showers, then heavy soaking rain from 12:30to after dark. Jimmie, returning from #3 Camp site, reported no rain down there yesterday or this A.M.

Botanized down the water place stream, fairly successfully in spite of the weather. A big Cyathea(#23261) common in very mossy underbrush near the stream - forth species collected here. Medinilla 23262, abundant as a small tree, extends up the mountain in gullies through the beech forest to our Top Camp. Rubus aff. MacGregori descends to an unusually low level and grows on open banks with Gunnera sp. A beautiful little Rhododendron (23268) with crinkled pink flowers grew as an epiphyte on a mossy tree.

Having trouble with wet clothing. Had a tent ful of it this P.M. drying over a lamp.

Saturday, July 4, 1953. Work goes on; so does the rainy weather. Max. 18.5, Min. 14.5 degrees C. Sunny until about 8:30 then mist and drizzle.

Today we had our first serious accident to personnel. Still unable to negotiate very steep slopes, I sent my boys down into the Atairo ravine, about 600 ft. below camp, to collect. A bug boy who was with them returned to camp about 12:30. An hour later another boy reported that my boy Tomi had cut his foot badly and offered to go help him back to camp. Inquiry seemed to indicate something serious, although my boys often come in late when sent off on their own. Geoff volunteered to go down into the gorge to investigate and render first aid and was soon on his way with tourniquet, bandage material, two copra sacks with which to make a stretcher, and several boys. About 3'oclock Tomi was carried in in a state of collapse from shock. He had climbed to the top of the gorge with the aid of Bobi, the other "flower-flower" boy, then caved in. Had blankets, dry clothing and hot bovril ready and laid him on my bed. Wound a deep cut about 2½ in. long on top of right foot, with much muscle tissue bulging out and some partly severed tendons. Injected novocaine, cleaned wound and inserted five stitches. Actual surgery apart from first stich done by Van. Patiend ate supper of bread and milk. Considerable pain later; gave 1½ gr. phenobarbital and 1 tab. codeine at 9 P.M.

Tomi had climbed a small tree and was cutting off a fruiting branch with his machete when the accident happened. Wound treated with sulfanilamide powder before and after stitching.

Sunday July 5, 1953: Max. 19.5, Min. 14 deg. C. Not more than five minutes of sun and no rain. The first rainless day since June 25.

Took Jimmie to replace my injured boy. Sent him and Bobi into the field while I caught up on preparation of materials left over from yesterday. Results poor. In P.M. I collected down the trail to about 1400 m. and got an excellent bag, mainly in old windfall openings in the oak forest. Many rain forest elements occur in such places and in gullies and ravines. Trail wet and in places slippery after the rains. Two to four inches of raw humus cover a stiff yellow clay, and where the humus wears off the ground is miry and slick.

Patient still weak and listless, but eating a bit. Temperature below 100. Not much pain until night when I gave him a codeine pill.

Monday July 6, 1953: Max. 19.5, Min. 14 C. Another rainless day. About an hour of sunshine all told. About double that in mist.

Expecting carriers today to move surplus stores down to #3 camp, where a fly is rigged, and take specimens to Biniguni. None arrived.

Sent boys (Bobi and Iselele) into the Atairo Ravine. A pretty good lot of plants resulted, including a second climbing species of Begonia, and the fig relative Dammaropsis, a monotypic endemis genus with great leaves 80 x 40 cm. and scaly reddish born fruits 8-9 cm. in diameter. Dammaropsis is rarely collected and I think I have seen it only twice before.

Van's 3 boys have traps set in the Atairo Ravine tonight and he went down to examine the locality and set a net in the stream in the hope of catching Crossomys. Reports it a beautiful place, very mossy and crowded with ferns. Wish I could see it.

Tomi a little livlier but temperature at 5 P.M. up to 100 deg. Another dodeine given him tonight.

Tuesday July 7, 1953: Max. 20, Min. 14.5 C. Maybe 2 hours of sun and little mist but light showers beginning just before noon. Was awakened at 3 by strong wind and driving light rain which ceased at dawn. A clap of thunder to the west ca. 4 P.M.; only one other instance of thunder and that a single clap to the SW, heard on the mountain (at Top Camp).

Spent day in camp working on collections and to receive the carriers. At 10:30 two Biniguni men arrived carrying between them half a 5-gal. drum of kerosene. Gave them a surplus drum of flour and one of wheat meal to drop at #3 Camp on their way home. The carriers left Biniguni this A.M. and made fast time.

Ken wrote that he was going down to Kwagira today with 4 carriers to bring meat and rice left at that village. Kwagira people celebrating the taro crop with a dance and will not carry. We don't need the stores for weeks anyhow.

Van's traps in theAtairo Ravine yielded only 3 gray-bellied Rattus which abounds at camp level. But last night his boy David shot Anisomys, making 17 species for this camp to date.

Was somewhat worried about my patient this morning. Temp. 101.5, foot greatly swollen. Dressed wound which looks well as far as I can tell on black skin, and is draining nicely. Temp. at 5 P.M. 100.5 F. In my best bedside manner as I shook down the thermometer in the boy's fly, I inquired whether Tomi was eating his betel-nut. This is the native equivalent of grog and I issue two nuts per boy per day. The reply was no. Then one of the other boys informed me that Tomi "kai-kai Kopina", which meant he had eaten the husk of the nut. So he must be on the mend.

Wednesday July 8, 1953: Geoff's birthday.

Max 19.5, Min. 14.5 C. Squally from about 5 to 8 A.M. Broken cloud and some mist in forest until 2 P.M. when light rain fell. Dull dark afternoon and night sky overcast.

Collected up the trail to the lower edge of the beech forests at 1800 m. The beeches, 3-4 ft. in diameter, too big to cut. Found one with convenient vines by which Jimmie climbed to the top, a good 100 ft. above ground, and lopped off fruiting branches. Have not closely examined the material yet but it may be

the species which dominated the forest at 2000 m. At about 1650 m. in the oak forest a climbing Quintinia abounds. It greatly resembles Q. Fawkneri of the mountains of Cape York Peninsula.

Van obliged to burn a lamp all day in a tent to dry his mammal specimens.

At inspection time this A.M. my patient greeted me with a fairly bright "Good morning". Temperature about normal. Seems to be on the up grade.

Thursday, July 9, 1953: Max. 20, Min. 14 C. About 2 hours of sun in morning. Mist and light rain 2 P.M. to dusk. Stars bright through the trees this evening (7:30). No matter what the weather may be during the day, nights usually are clear.

Sent boys into the Atairo Gorge this morning and they brought back, among other things, the first buttercup for the collection. An unexpected occurrence. This genus is alpine in New Guinea, though descending considerably lower in streamways. I did not find it high on this mountain. A good tasting cress (Cardamine) grows on wet mossy rocks in the Ataira. We ate some today with afternoon tea sandwiches.

Often these days I find a little knowledge no certain advantage in botanical collecting. Geoff has been telling me about an unusual fern growing in what he calls a pot-hole, down in the gorge. Today, at cost of much exertion, he collected it and left the specimen on the trail for my boys to carry to camp. Asked why they had not brought in the fern, they explained it was without "Hua-Hua", and they had thrown it away. That is what comes of trying to teach the boys to collect only spore bearing ferns. They have learned that many ferns are dimorphic and that both kinds of leaves must be collected. One should not expect too much from help paid 30/- a month.

Patient's temperature only a trifle above normal this morning. Found him drawing at a trade tobacco and newspaper cigarette when I popped in to dress his foot at 5 P.M.

Friday July 10, 1953: Max. 21.5, Min. 14 C. A most welcome break in weather. Sunny in camp most of day. No rain; little mist.

Botanized down the trail to about the 1250 m. level. Not many species collected but several good things, among them the 3rd species of Begonia for the camp, and in the head of one gully in the oak forest, 2 fine tree-ferns (Cyathea).

Caught under my foot at 1250 m., and killed between thumb and finger, the first snake for the mountain. It was only a foot long with prettily marked white and black neck parts and dull brown body which blended well with the ground cover of rotting oak leaves. Other herpetological accessions were a skink and a gecko. But these were taken by Geoff's boys at about 700-800 m., and are only to be regarded as a preview of what our next camp (700 m.) offers.

In early afternoon two carriers arrived from Binigumi with some fresh food (taro, sweet potatoes, yams, pumpkins, coconuts) and a long letter from Ken. A case of bully beef left in Kwagira resthouse with other goods has been stolen. He feels and I agree that action should be taken to bring the thief or thieves to book. Authorized him to do this, but not if such action should require my going to Baniara (10 days there and back) for a court case. The theft, I feel,

would not have happened but for undue confidence in a superior native, i.e., the Kwagira village constable. For no good reason that I know of, the stores had been in the resthouse for at least 2 weeks. And this is the time of the local taro feast.

<u>Saturday July 11, 1953</u>: Max. 22, Min. 14 C. Clear dawn followed by a dull day with considerable mist and some spells of light rain beginning 10 A.M. Clear tonight. Could see Goropu through the trees to the west before sundown. Loud thunder in that direction about 4 P.M. today and yesterday.

Sent the boys out to search the slopes for fertile material of a small-leaved <u>Podocarpus</u>, the only conifer on the mountain not yet collected. Both brought in male flowers.

Developed black and white pictures. Temperature of July water 59 deg. F.

Called the boys up this afternoon to make it known that I am aware of the theft of betel-nut from my tent. Discovered it two days ago. Someone has been purloining about 3 a day for the last week and a half. Have good reason to believe the culprit is Jimmie, long a suspected thief. Told the boys that whoever the thief was he was not taking anything from me, but stealing from his fellow Gosiagos who were to share equally in the nuts.

<u>Sunday July 12, 1953</u>: Max. 21, Min. 14 C. Dull morning;light rain beginning at 10 A.M. Very heavy rain 1:50 to [illegible] 2:15 and other times during afternoon. Working late in the day; still drizzling 7:30 P.M.

About 10:30 a native (Tuasi) arrived with a letter from Ken. He started from Biniguni early this morning with 35 carriers. Not enough to move us. A relay therefore necessary. Trying to get the carriers to come on from #3 Camp for first carry today.

Van had a full day's work ahead of him on yesterday's mammals, besides a major job of packing skins which have been drying over lamps for the last 3 days. Therefore, Geoff and four Gosiagos (to rig camp) were the first contingent to prepare for evacuation. Carriers started to trickle in at 12:30. Had rice ready cooked to feed them (29 men and 4 women). Had loads lined out, a fall-in count of carriers, and loads allotted and partly tied up for carrying when the downpour hit us at 1:50. Carriers reluctant to start when the rain eased but I suggested to Geoff that he start off, and soon the transport was on the move. They had not been 30 minutes when the heavens opened again. All loads were in waterproof covers - I hope. Was pleased to see when the carriers dashed for shelter in the rain, they either carried their loads with them or placed them in the best position to shed rain (swag bags upended, etc.). A cheerful lot, they sang as they followed Geoff down the trail.

Collecting at this #2 Maneau Camp has been very satisfactory for species of plants, not so satisfactory for series. Many species such as ferns and orchids are sporadic in the forests. The chief contributing factor in shortness of series is that I have had to leave collecting in the most difficult places to my boys. In general, more of the forest trees are in fruit than in flower; perhaps one-third are sterile at this time of year; a good sprinkling of trees, shrubs and vines in various stages of developing flower buds; herbaceous plants other than ferns and orchids are few in species and usually in individuals. Collections:

numbers 420 (including 3 bryophytes); herbarium sheets 1782.

Van's last day prize at this camp was Dactylonax, shot from a tree by David last night. A pretty, and smelly, little marsupial, blackish striped with grey, and with enormously elongated fourth fingers.

Collections: 193 specimens; 20 species, including Rattus 2, Melomys, Leptomys (?), a strange long-eared mouse; Anisomys, Phalanger, Pseudocheirus 3, Thylogale, Macroglossus, Antechinus, Pogonomys, Hyomys, Murexia. An amazing concentration of mammals in this immediate neighborhood. Most of the trapping and shooting has been within a few minutes walk from camp.

Night flying insects have been collected in greater numbers and much more variety than at top camp. The almost constantly dull and rainy weather and the almost unbroken forest cover have not been favorable for diurnal insects. Frogs have turned up well in species. Very few lizards and only one snake. Summary:

Nine o'clock and raining steadily.

Monday July 13, 1953. Starry sky at 5 A.M. Dull dawn. Drizzle began 10 A.M. Heavy rain 10:45 to 1 P.M., and again 5 o'clock into night.

Had swags rolled and tent and flys down bright and early. At 8 o'clock four Gosiagos started down the mountain carrying Tomi in an ingeniously contrived litter. Litter carried by two boys in relay. Trail too bad for a 4-man carry. Thirty-five carriers arrived at ten and by 10:20 Van and I were on the trail behind the transport line. Trail miry with yellow slush and surface roots very slippery. Had to watch almost every step we took on the descent of over 3000 ft. to #2 Camp. The carriers, lightly loaded, kept on in the rain without halt. So did we, and reached camp in 1 hr. 35 min. Passed the litter bearers 20 minutes from camp and on arrival sent all other Gosiagos to help carry the patient. Tomi arrived in somewhat wet condition though covered by a canopy made from one of David Abercrombie's "waterproof" pack cloths. The bearers managed to keep on their feet all the way down.

Carriers cheerful about it all. We were fortunate in beginning the transport yesterday. The carriers would not have left their village after the rain started. It seems to be a general rain. Apparently rains such as we have been having lately on the mountain and down below are unseasonal. The Binigumi people explain it as the work of sorcerers.

Considering the weather and the little labor available to him, Ken has done a good job in making camp.

Tuesday July 14, 1953: Dull day with some drizzle. Felling of the forest on the down slope side of camp has opened up a view of many miles of coast and the lowlands in between. The Rakua River in high flood and over its lower banks. When the weather clears will be able to take bearings by which the position of camp can be fixed.

All boys fixing camp. A few traps put out by Van last night yielded nothing. Picked up enough plants near camp to fill my dryer in the morning.

Two boys very ill from eating tainted pork brought up by the Biniguni village policeman. Much vomiting. After a salt and water emetic they began to recover.

Wednesday, July 15, 1953: Dull day; some sun in camp where the ground is beginning to dry; no rain. High, heavy overcast at about the altitude of #2 Camp where no doubt the weather is as wet as ever.

Had good collecting at a creek about 5 minutes from camp to the west. Stream bed rocky, 15-25 ft. wide, with succession of small cascades and deep pools. Learned that the boys took a fair sized eel from a pool yesterday. Killed it with an axe and ate it.

Fired rogue and trouble maker Jimmy (Bolis Manaboleina) and sent him down to Biniguni with Ken this morning. He carries letters asking Mason to ration him at Menapi, request for a boat passage to Samarai, and to Buntings to pay him off and repatriate him to his village. Loud wailing from the boy's quarters as Jimmy prepared to leave, changed to laughing chatter 15 minutes later. There was a risk of other boys from Jimmy's village deciding to go with him. Under their contract of service they have the right to clear out any time and we can fire them when we wish. I have a feeling there is a general sense of relief in camp now Jimmy has gone.

Thursday, July 16, 1953: Sunny until late afternoon. No rain or mist. Lowlands and coast hazy; the usual haze of the SE season.

Botanized up the trail to where rain forest gives place to oak forest in about 50 m. of altitude. Here at camp a small-acorned oak occurs in the rain forest. Up the hill no acorns were seen on the ground. Evidently different species are involved. The oak forest carries a scattering of other big trees, including an Elaeocarpus, but of all the trees, big and small, only one undergrowth species was found fertile.

Geoff and his boys opened a trail east to the Atairo this afternoon. Not much difficulty, it seems, and the stream much bigger than at the #2 Camp level. A 100 ft. waterfall just above where the track reaches the stream. Three spp. of butterflies and one damsel-fly netted there.

Van getting very few mammals. Only 8 specimens up to 8 o'clock this evening. But they represent 6 species: Rattus, Leucopus, Pogonomys (2), Pogonomelomys, Leptomys and Epimypera. Small bats fly in the forest and rarely over the camp, clearing in the evening and about dusk one or two flying foxes wing eastwards out of gunshot range. An occasional wallow in the forest indicates wild pigs. The Leptomys was trapped at #2 Camp. All other mammals taken here are new to the collection.

Friday, July 17, 1953: Overcast day; a drizzle at 4 P.M. Patches of sunlight over the lowlands towards evening. Clear starry night (as two previous nights.

Collected in rain forest in the ravine of the creek west of camp. But for ferns, which seem to be in New Guinea in endless variety, the bag would have been poor. The blue D'Albertis creeper (Dioclea) common as a big canopy liana in these rain forests, sprinkling the ground with its 2-inch flowers. The only big tree collected so far is an Elaeocarpus with very immature small fruits.

Van and Geoff on an excursion into the Atairo Gorge this A.M. Both impressed with the beauty of the waterfall.

Saturday, July 18, 1953: Dull and for this altitude, muggy day, with drizzling rain beginning about four and ending 2 hours later. Evening overcast.

Ken came racing up the trail as I botanized below camp this morning carrying some extra traps for Van. With him were two small boys coming easily behind him with bananas and other fresh food. It is good to have the fresh stuff. What we really need is canned meat which Ken knew about when he went down to Biniguni a few days ago, but forgot. A pattern of events which we are more or less accustomed to by this time.

Secondary rain forest on rather steep slopes as far as I went down the mountain this morning - about 550 m. An old village site at my terminal point. An old notched house stump about 6 inches in diameter. Dracaenas growing in the forest. The cut stubs of a big planted bamboo and a lime tree.

The second growth forest of the usual mixed composition but no tree seen in flower or fruit, which is most unusual for trees of this community which spread widely because of their prolific reproduction of fruits and seeds ready for dispersal. Commersonia and Rhees recognized. Macaranga apparently not present. Among collected plants were a common big treefern (Cyathea) and Pandanus Dankelmannianus, the former new to me, the latter widespread in New Guinea.

Here at 700 m. we are at the exact upper edge of former cultivation on this part of the mountain by the Daga people who now live in the Biniguni group of villages. These people moved down to the foot of the mountain not many years ago (on orders by government, according to report). Ken says (information obtained from him some time ago and checked this evening) that the father of the present chief of Biniguni led the people who first settled on these slopes. The migration took place from Bibitan, soon after the murder of a white prospector named Werner (killed ca. 1010-1920). The leader was the first man in Bibitan to own a steel axe.

Sunday, July 19, 1953: Max. 26, Min. 16.5 C. Some bursts of sunshine, but generally overcast day with occasional drizzle in early afternoon. Same weather on lowlands visible from here. Brownish SE haze obscuring distant views.

Having much unprepared material on hand, and still nursing my shoulder, I sent the boys down into the Atairo Gorge this morning. Nice lot of plants which I have only started to work on. Am so overloaded with specimens that I will have to pickle some in formalin.

The mammal take from this camp remains remarkable: 24 specimens of 14 species and genera. Today's accessions were, from over 200 traps, a giant rat which looks like a Uromys except for its pale born color, and a small pale brown mouse. Also the first bats for the camp: a Hipposideros, and a very small russet brown kind which reminds me of Schuteinus. Van now has at least 40 species of mammals from the mountain.

The frog business is booming for Geoff; 39 specimens of 6 or 7 species got with headlamps last night.

Monday, July 20, 1953: Max 27, Min. 17 C. Dull day turning rainy (light) about 2 P.M. and clearing in early evening. Reddish sunset.

Collected west of camp some 1/2 to 3/4 mile where a fair-sized rocky creek plunges down the mountainside. Nothing of special interest on the stream. The prizes for the morning were five very small species of saprophytes growing on deep raw humus in the denser shade of the rain forest; one species each of Burmannia, Corsia, Sciaphila, orchidaceae, and a whitish plant which I can not place. All species found localized on about 50 yards of narrow ridges. Van der Pijl observed that usually two (or more) species of saprophytes were found together in Malaysia. But never have I seen such an assemblage as that found today.

Our first mail from home since July 2 arrived late in the afternoon. In the bag were 3 kodachrome films which we had sent to Melbourne for a trial of Kodak processing in Australia. As in 1948, the results were not satisfactory. Frames uniformly too dark; some stained with chemicals. We made a special request that the frames be numbered consecutively. It was done with pen and ink.

Learned from Buntings that mails we sent from the mountain May 24 and June 25, arrived together in Samarai about July 4! Our camp lights at #2 Camp have been seen by vessels crossing Collingwood Bay at night.

And from Peter O'Sullivan we have the lowdown on what can be done about the theft of a case of our meat by natives at Kwagira. If the value of the stolen property is under Ł5, trial can be made in magistrate's court at Baniara. For that, one of us would have to spend at least 10 days walking to and from Baniara, and a government boat would have to bring an A.D.O. from Samarai for the trial. (O'Sullivan, in charge of a sub-district, ranks as Patrol Officer and does not have magisterial powers). If value of property is over Ł5 (it is Ł9-/10) the case must go to the Supreme Court and await the arrival of a judge on circuit. In our situation, legal action is out of the question. The processes of law are too cumbersome and time-consuming. If Peter wished, he could swing the weight of government authority and at least convince the culprits that property can not be taken with impunity. I have suggested to him that some kind of action, not leading to Supreme Court proceedings, is indicated if the prestige of Europeans in this area is to be upheld.

Tuesday, July 21, 1953: Max. 24.5, Min. 15 C. Rosy dawn, and the sunniest day we have had at this camp, but still generally overcast. No rain. Stars shining through high, broken clouds tonight (8:30). A fire burning on a strip of grassland down near the coast. Probably natives making a wallaby drive.

Ken went down to Biniguni and sent up a couple of locals with some meat and rice to see us through this camp. Sent down a box of mammal skins and numerous cases of surplus beef dripping which we have been carrying on the mountain for two months.

Sent my boys to cut a sample of the dominant oak (Quercus sp.) of the forests just above us and collect anything else they could find while I caught up with the preparation of materials on hand. Am collecting more than I can well handle.

Van's total take from traps was one marsupial cat. My boys brought in a bandicoot which they had caught in the forest. A tough camp for the mammal man.

Wednesday, July 22, 1953: Max. 25, Min. 17.5 C. Last night was quite warm. Today almost entirely overcast. Mist in the tree tops at camp level, ca. 2-6 P.M. Showers visible on lowlands in late afternoon. No rain here.

Worked up the slopes to about 900 m. in the oak forests to a pandanus-leaf shelter which was built by our transport natives after we made the ascent of the mountain. Saw at about 850 m. a solitary big tree which looked like Nothofagus, but it was too big to cut, and unclimbable. Some good plants collected in a gully at the shelter. And on deep raw humus matted with roots in the oak forest. I found Corsia again, this time in association with Sciaphila.

Van collected his 1000th mammal today; I my 2000th plant number for the trip.

For the first evening since field work commenced at this camp I am not fighting against the almost irresistable urge to scratch at "scrub itch" bites. The forests are infested with the mites which cause the itch. Rubbed U.S. Army repellent Scat on forearms and lower legs this morning. Am uncertain whether Scat repelled the mites or whether two or three rainless days have made them inactive. Am inclined to credit Scat. In the beginning here, my boys picked up leeches every day and they were even in camp. Have not seen one lately.

Thursday, July 23, 1953: Max. 25, Min. 17.5 C. Weather as yesterday but for a sharp shower between 5 and 5:30 P.M. Night broken cloudy, stars bright.

Yesterday's big collection kept me in camp. Having to pickle some material. Specimens drying slowly. The corrugated strawboards of my drying apparatus were half flattened by the always rain-wet material of #2 Camp. Have 1/3 of my dryers in good condition at Biniguni and a stock of new strawboards in Samarai.

Boys sent into the field distinguished themselves mainly by cutting down a big tree to catch a rat (Pogonomys) whose ~~[illegible]~~ home in a knot hole they spotted from the ground. Good plants were a high climbing Vaccinium with very conspicuous red flowers, sporadic in the forests, and an orchid which climbs to 15-20 (m. or in., poor copy) and bears thousands of small purple-spotted flowers.

Took bearings on the coast to fix the position of camp. They did not work out. Put us on the coastal plain and well east of where we ought to be. From our viewpoint, the coast does not look as it does on the maps. I took Ken's names for features and they must be wrong. Will have to do some map study and hope for rain to clear the air of the brown SE haze which obscures the coast and the mountains of Cape Wilson.

Friday, July 24, 1953: Max. 25.5, Min. 18 C. Heavy clouds at dawn. Steady soaking rain began 11:10 and lasted until nearly 6 P.M. Night sky overcast.

Went down to the waterfall on the Atairo about a mile NE of camp at the altitude of 500 m. Track follows an oak-forested spur to 650 m., below which the slopes are very steep and rubbly and vegetated with mostly secondary rain forest. An old hpise or village site at 600 m.; a betel nut palm with exceptionally big yellow fruits growing there. Nothing special about the waterfall; drop of about 100 ft. in two steps; big clear pool below. Rock walls in the spray area partly covered with small ferns, white balsams and a big Elatostema. I failed to see the wild grandeur reported by Geoff and Van.

The botanical highlight of the day was a *Dipterocarp* found in the oak forest. The heavy rain prevented my having it felled - a job left for tomorrow.

Saturday, July 25, 1953: Max. 23.5, Min. 18.5C. A few momentary glimpses of the sun but generally a dull day, with light rain for several hours after 1 P.M. The clouds seldom float in to our little ravine, but they rest in the trees of the oak forest 50 m. above us, and tonight the lowlands are blotted out by mist or fog.

Collected my dipterocarp, called Ruru by the boys, and probably an *Anisoptera*. A more important collection, from a plant distributional point of view, was a *Castanopsis* commonly associated with the oaks in the mid-mountain forest of this level. The two genera look so much alike from the ground that I'm not sure whether the Castanopsis or the one oak collected here is major dominant. The Castanopsis has burry fruits a good 15 mm. in diameter and seems different from the wide ranging species of more westerly parts of the country (*C. Junghuhnii*).

Van is out jacking tonight. Geoff is trapping insects. But field work for this camp and the mountain is about finished.

Our happy Gosiagos always have a sing-song in the evening. They are unusually boisterous tonight. They have been told this was the last day of real work on the mountain. I gave them the residue of the betel-nut this evening - a generous issue. After champing the soothing nut for a while, they break with song, sometimes haunting native tunes, more often hymns which remind me of Methodism. Saturday night on Mt. Dayman. Boys high on betel-nut and singing "Holy, Holy, Holy".

Am having a litter made for carrying Tomi down to Biniguni. About one-third of his wound has healed and shows a nice blue scar. The lower two or three inches still needs more time. Maybe I should have cut away injured muscle tissue before stitching. I know I used too much sulfanilimide powder to prevent infection and killed tissues which may have healed quickly.

Sunday, July 26, 1953: Max. 24.5, Min. 17.5 C. Sky starry before dawn. Overcast most of day. Rain began 11:30 and ended about 4 P.M. The weather seems much the same on the lowlands. Broken fog banks down there in early morning; scattered showers visible until mist, about noon - 2 P.M., closes out our view.

Our last day on Mt. Dayman (provided carriers are on hand to move us in the morning) and a very busy one. All gear except tents, flys and personal swags are packed this evening. Four carriers have arrived by pre-arrangement to take the tents and flys as soon as we can have them ready in the morning. Other carriers have trickled in, I hear. They will sleep in a pandanus leaf shelter a few minutes down the track.

The carriers brought a long letter from Ken on repercussions of the Kwagira theft of a case of our meat. Native opinion is that government will take no action and it is up to the Americans to protect their own property. Ken is very mercurial and often goes off at half cock. Still, the situation could be difficult for us in the next few weeks. We have surplus stores in the rest-house at Baiawa, and it will be necessary to relay collections there and leave them unguarded before our work in the Biniguni area is completed. There are not enough potential carriers in the area to take us and all our belongings to the coast in one move.

Have collected 288 numbers of plants at this camp. This makes what I consider a satisfactory total of 1508 numbers for the mountain. The mammal collection of 49 specimens was disappointing in numbers though remarkable for variety for such small proceeds from trapping, tree-felling and shooting, with at least 17 species. *Pteropus* (over 5 ft. wingspread) *Dobsonia*, *Macroglossus* ?, *Hipposideros*, *Miniopterus*, a bandicoot, *Satanellus*, *Phalanger*, *Rattus Leucopus*, *Uromys*, *Pogonomys* (2) *Leptomys*, *Pogonomelomys*, *Melomys* ?, a strange mouse, an unidentified giant rat (Hyomys?). Total number of mammal species of the mountain:

The open rocky beds of small creeks were good catching places for a few species of butterflies, dragonflies, and damsel flies. Light trapping was only moderately productive. Many frogs in good variety were caught in streams and in the forest. Only one snake was captured and a few skinks. Collections: 3600 insects and spiders, 22 other invertebrates, 241 reptiles and amphibians, 3 eels.

BINIGUNI CAMP. GWARIU RIVER.

Monday, July 27, 1953: Four carriers with tents and flys, and 3 Gosiagos left #3 Camp about 7:30. Other carriers from Awani and Maneau villages, and a few from Biniguni, Budmag and Opaigwai began struggling in soon after breakfast and at 8:50 we evacuated camp with 41 loads. Councillors from Biniguni, Maneau and Budmag with our party. Betel-nut palms, breadfruit and Okari trees marked the sites of former villages of Umaiau at about 600 m. and Bud-Dawa at 500 m. Track did not seem nearly as steep as when we walked up it 10 weeks ago. Carriers made good time and we reached the Ginum River at foot of the escarpment at 9:45 (alt. 180 m.). Bouldery bed of the Ginum quite dry except for a small pool at the foot of a long cascade where the trail reached the river. Rested 20 minutes in the shade of tall forest of the north bank. Reached the new camp on the Gwariu River about 11 o'clock. Tomi limped down the mountain trail and was carried from the Ginum to camp. Ken had all tents and flys rigged by the time we arrived and a group of native women were on the point of loading a stone oven with sweet potatoes, taro and green taro leaves to feed the carriers and our boys.

Chosen by Ken, the site of the Gwariu Camp does not look favorable for our work. The best that can be said of it is that it is on clean, level sandy and stony ground. But that ground has been deposited by its river in recent year and is not safe from high floods. This is the dry season and floods are unlikely to occur, but with a rise of about 15 feet the water would flow over the camp ground, and the Gwariu is a very fast stream now 60-80 ft. wide in its normal bouldery channel. The river flows along the very foot of the escarpment. Opposite camp is an eroding bank up to about 40 ft. high (many water-worn boulders embedded) and above it native gardens and mostly second growth rain forest. Back of camp, toward Biniguni village, there is some tall primary forest, but it is a poor development, largely of Casuarina on ground so very bouldery that it has no attraction for native cultivators. Will try to find a better camp site in the general neighborhood.

First aneroid readings make the camp about 200 m. above sea level. The climate seems hot after the mountain. Our skin has been more or less bleached by five weeks of wet weather and forest shade and there will be some sunburn. Had this evening my first bathe in open water for a long time; temperature a bracing 68 F.

Tuesday, July 28, 1953: Day almost completely overcast, but only a few drops of rain. Temperature in my rent this afternoon 92 F.

Had my two plant drying units set in place yesterday and today have one in operation on partly dried and formalin-preserved material brought down from the mountain.

Gave all boys, including cooks, a holiday which they have spent in the river bank, bathing, washing clothing and blankets, and just plain enjoying themselves.

Geoff, Van and Ken to Biniguni to examine collection stand there and bring a few needed items from our boxes in the rest house.

Wednesday, July 29, 1953: About 50/50 overcast and bright sunshine; no rain; some stars showing tonight. Smoke in the air from new garden clearings being burned by the natives.

Spent the morning at the rest house in the village examining plant materials sent down from the mountain. Wynn had sent four herbarium bundles to the coast without my knowledge. All packages in the rest house in good condition with the exception of a few outer sheets in one herbarium bundle which was wet on the way down from Top Camp and was not properly cared for by Wynn.

Returned to camp at noon to find the temperature in my tent 96 F. Now have a fly rigged over it. My tent is my work place where I prepare plants in the afternoon and thus escape disturbance by ~~xxxx~~ any wind that blows. ~~Aftxx~~

After attending to my molded specimens from the mountain, I found time to do a little collecting in the river bottom. The usual pioneer species one expects to find on the lowlands (Saccharum, Pipturus, etc.); also a Begonia and a white-flowered balsam which occurred on the mountain.

Thursday, July 30, 1953: Mostly sunny until early afternoon, then overcast. No rain. Clouds have been heavy over the mountain since we left it, suggesting continued mist and rain, although the Gwariu, chief drainage stream of Mt. Dayman, has had only one freshet of a few inches since we established camp here on the 27th.

Worked half a mile or so up the bed of the river this A.M. and returned through the forest. Both habitats poor in plants.

Losima, the #2 cook, saw a spirit last. A keen hunter in off hours, he was down at the water's edge with a headlight and a flashlight, catching frogs. Suddenly, as he related it, a great big luminous eye stared him in the face. He turned to retreat, then thought better of it and looked back. The eye was no longer there. At this juncture in the story, Kim, the sophisticated #1 cook, explained to the listeners that the spirit was looking at the ground. Soon the eye appeared again. Taking no chances this time, Losima raced across the boulders toward camp with headlight burning and flashlight directed behind to dazzle the spirit, fell, and smashed his collecting bottle against his chest. The obvious explanation is that he saw the reflection of his headlight on the water. But the boys will not believe that. The incident is another strike against this camp. The hunters are out in pairs tonight in the forest away from the river.

Friday, July 31, 1953: Day overcast; no rain. Min. tem. 20.5C (ca. 70 F) last night. We have become conditioned to the muggy heat of the day, at night the air is so soft that one is not conscious of contact with it. Two blankets necessary for comfort toward morning. We sleep under nets as a precaution, but there are very few mosquitoes.

Made an excursion via Binigumi village (about 3/4 mile) to the Gwariu near its junction with the Mai-U (about 1 mile), and returned up the river to camp (about 1 mile). Ground much less stony than in the vicinity of camp; some good soil. But the forest is not well developed. This neighborhood lacks the maturity necessary for the development of good forest. The Gwariu, between camp and a sharp bend where it turns north from under the escarpment, divides into channels in a wide bouldery bed and shows evidence of violent flooding. Below the bend it has stable banks which on the east side rise steeply to 40-50 ft. This is good old alluvial soil and has been cleared for gardens. A hamlet of 3 houses and another of two.

On the 1-mile map the stream we are camped on is called Gwadi Creek. Was assured by the Lohia (local chief) today that this is incorrect. The name is Gwariu.

Have arranged with the Lohia for a runner to start for Baniara at daylight tomorrow, taking mail and a package of antibiotics research matterial for Pfizer.

Saturday, August 1, 1953: Sun and overcast about half and half until noon; thereafter low mist in treetops and steady rain 6 - 8 P.M. Sultry in the forest this afternoon.

Morning spent on yesterday's collection; half of afternoon in field, along the Ginum trail. Results poor. Most interesting plant an insect-eaten nondescript undergrowth tree of the Anonaceae with remarkable fleshy flowers.

This was the market day set for the weekly bringing in of food for sale by the natives. Two or three hundred pounds of taro, yams, tailo and sweet potatoes, plus bananas and pumpkins, bought with salt and sheets of newspaper.

Tonight in the rain one Tuasi with two friends from old Binigumi village brought in a great snake coiled around a pole and tied head and tail. Probably an amethystine python; it was bought for 2 dozen safety matches and five shillings. Much haggling by Ken. The asking price was four pounds.

Sunday, August 2, 1953: Generally clear in morning, overcast and mist on mountain about 1000 feet above us from about noon to nightfall. Night dark and overcast. No rain. The river keeps at the same low level.

Cut a track through the forest paralled with the left bank of the river to the mouth of the Gwariu Gorge. Distance probably about 1000 yards from camp to where the river debouches from a north and south cleft in the mountain and turns west under the escarpment. The river is deflected west by a spur of the mountain of solid country rock rising 200-300 feet above the river. Altitude of stream at mouth of gorge 240 m. or about 40 m. above camp level. Entered gorge 200-300 yds.

beyond which on left side, progress was stopped by a vertical cliff rising from the water. Could see about 1/4 mile up gorge to where it bent slightly west. A patch of levelish ground in the bend with wild banana trees growing in the forest. Walls of gorge rise sheer and even overhang. Not much vegetation on rocks which generally are dry. Scared about 5 Dobsonia bats out of one rock crevice. Other holes on joint planes and small clefts looked promising for small bats. River a continuous rapid in the gorge but with moderate fall. Boys crossed with no trouble from rock to rock and by wading.

Blue pigeon for supper. Two of them nicely done in the pressure cooker. These birds very common in the forest. We have had one most days - a meal for two men.

Monday, August 3, 1953: Max 32, Min. 19 C. The poor job done on initial rigging of camp plus the necessity of carrying on with normal field work while making the other things shipshape, has delayed max. and min. observations until today. This thermometer shelter is the best yet. Thatched with fresh leaves of wild banana plants, and decorated on the corners with graceful young Casuarina trees. Clear, slightly rosy dawn, with high cirrhus clouds drifting from east and the Goropu heights clear and cold-looking in the first sunlight. Afternoon overcast; some light rain; evening clear. The river about 6" lower than when we came here a week ago.

Collected along the trail to Biniguni Village and beyond about 1/2 mile toward Budmag. Some good plants including two ground orchids of the forest, a beautiful horizontally-branched shrubby Amaracarpus with starry white flowers; a deciduous now leafless Combretum which climbs to the topmost branches of a Casuarina in the forest and strews the ground with its small red flowers. Collection of this liana, and a high-climbing Piper with sausage-like red fruiting spikes, involved the felling of a big Casuarina about 180 ft. tall and about 2½ ft. through above its buttressed base. Stepped 44 paces on the log and estimated the topmost part of the tree.

Wynn departed early this A.M. with a transport for Baiawa. About 32 loads: 19 of specimens and the remainder surplus foodstuffs which were brought to Biniguni instead of being left on the coast.

This was my first good day in the field in this locality. Mammals are coming in slowly. Only 40 specimens for 6 nights trapping and five of shooting, but there are 13 species, including 3 of Melomys. Insect catching is good: many butterflies. Two species of fishes and one crustacean from the river. Skinks are plentiful but not in the collection. Three species of snakes collected - all by villagers. Van in his night hunts finds more geckos and frogs than mammals. One of the geckos is about 10-12 inches long and beautifully banded.

Tuesday, August 4, 1953: Max. 30, Min. 18.5 C. Clear and sunny most of day: overcast from about 2-5 P.M.; night sky full of stars. Black clouds enveloped Goropu this afternoon. It looks like a wet mountain.

Day spent in camp on yesterday's plants and some collected just across the river by my boys today. All my drying equipment being used to capacity.

Was disturbed last night by scrub itch and the troubles of dogdom. The red scourge of the forest has become active after the rain of a couple of days ago. About 3 A.M. I was awakened from troubled sleep by the barking and yelping of a dog (New Guinea dogs do not howl). Concluded it was a prowler from the village caught in a steel trap and called Van. He roused his boys and sallied into the forest, enveloped the captive in a copra sack, and freed it from the trap. Our steel traps are smooth jawed and the dog's foot was not badly hurt. Suspended rat bodies were the lure.

Geoff today made an excursion to the Rakua River via Biniguni and Budmag. Distance there and back by native trails about 6 miles.

A good evening for Van. Three firsts for the mammal collection: a horseshoe bat (Hipposideros) shot on the wing, Dactylopsila and a strange-looking Antechinus(?) got by jacklight.

Wednesday, August 5, 1953: Max. 33, Min. 16.5 C. Relative humidity, clear sky: 6:30 A.M. 91%; 1 P.M. 54%, 6 P.M. 84%. Clear day, unpleasantly hot about 2-3 P.M. with changeable light breeze both ways along river. Goropu clear all day. The sappier herbaceous plants wilting in the forest shade.

A big bulk of plant material collected toward the Ginum and (by the boys) in (small ? poor copy) growths just across the river. The only species I consider "good" is a Bignoniaceous liana with palmately divided leaves and big purplish flowers (aff. Tecoma) Big lianas are a characteristic feature of these primary forests. Rain forest usually has a more or less unbroken and continuous canopy in which the big lianas spread their branches. Here the larger trees are spaced in an open stand and the lianas, being unable to reach from tree to tree, form columns of dense foliage enveloping the upper trunks and lower branches of the forest giants.

Our first breakfast eggs in 3 months. Two big brown megapode eggs bought yesterday from a native for a box of matches, after a water test, and scrambled by the cook. They tasted mostly of the goop Kim mixed with them.

From Kwagira two carriers arrived with empty load covers, a bundle of formalin material I left at Baiawa 11 weeks ago, and a note from Ken saying all is well with collections transported to Baiawa. He is returning via Maneau Village and should be here tomorrow.

Thursday, August 6, 1953: Max. 32.5; Min. 17 C. Relative humidity 6:30 A.M. 84%. Clouds low over the escarpment this evening after a hot, clear day.

Had a good morning down the river about 1/2 mile in tall rain forest developed on old alluvial soil. Pleasant not to have to watch every step as on the bouldery ground of the camp area and a 1/2 mile or so to the east. The author of "Worlds Asunder" would be intrigued with the recent geological history of this area. My present idea of it is that within the last 100 years, the Gwariu Gorge was blocked by a landslide. Upon the breaking of the dam several square miles of country hereabouts was devastated by flood and covered with boulders.

Ken returned from Baiawa and Kwagira via Maneau Village. Followed Etoi Creek from near Kwagira to Maneau. Reports that Maneau is on limestone country which extends this way to about Awani Village. Good brown soil carrying fine closed forest in which Helaga is a prominent tree.

In mid-afternoon a policeman arrived from Baniara with a small mail and the news that Peter O'Sullivan expects to start during the week (Monday or Wednesday!) on a patrol to this area.

This was jackpot day for Van. Around 200 specimens added to his collections. Ken brought a big lot of *Hipposideros* bats from a cave in the limestone near Maneau. Not long after his arrival in camp some Maneau men came with many *Hipposideros* of another species caught in a different cave. To top it all, some local urchins came in late in the afternoon with a splendid series of *Pogonomys* which they had taken from a hollow tree, plus a score or more of a small bat still to be placed to genus.

Ken saw entrances to two caves at Maneau, both small holes near ground level. The local natives went in alone for the bats. They also captured an eel from a cave stream. The story is that lot of superstition is attached to the caves and the locals object to other people going into them. The caves contain a potent "pig medicine" which the Maneau people sell to hunders of the Maicine tribe for good money, or kind.

Thursday, August 7, 1953: Max. 34.5, Min. 17 C. Relative Humidity 6:30 A.M. 91%. Clear dawn followed by hot sunny A.M. and overcast and sultry afternoon. Thunder and black clouds to SE over mountain late in the day. No rain.

Day spent in camp catching up on plant preparations which were interrupted by the arrival of mail yesterday. Boys out cutting trees previously observed, including one occupied by the brilliant red-flowered "D'Albertis Creeper". At least five species of this plant are known from New Guinea, not including those of the genus (Mucuna) with green flowers. The local species is common in the forests but at this season there are few flowers.

Further information from Ken on recent developments of cargo cult in connection with our presence in this area. We are supposed to have erected a cross on the summit of the mountain. At Easter time when we were in this general area, there was great activity on the part of the Anglican Mission in putting up crosses. In our present neighborhood there are new wooden crosses, about 10 feet high, in Kwagira, Buimag and Binigumi villages. Our alleged cross and those of the mission are believed by the natives to be preliminaries to something big that is going to happen. That is, the return of the Americans to New Guinea in force! We are the advance party. There appears to be a definite connection between cargo cut and wrongly assimilated mission teaching. Heaven, and the pie-in-the-sky of the have-nots, are very similar ideas.

Our runner has returned from Baniara with another small mail from the States dated around the middle of July.

Friday, August 8, 1953: Max. 36.5, Min. 17 C. Hot, almost cloudless day. The softer plants in the forest are wilting from heat and want of rain. Mosses on the trees are crumbly-dry.

Spent a long morning collecting on the Ginua River about 1½ miles east of camp. The bouldery bed of the stream dry except where small feeders drop in series of falls and cascades from the mountain side. Few plants of much interest. Three spp. of Ficus including one of the little, horizontally branched, flood resistant stream bed trees frequently found in the foothills, A surprising find was Thespia growing 20 m. tall on the rocky edge of a pool and looking like a natural element of the rain forest. It can hardly be the common strand species of the coast.

Geoff having good collecting here. The mammal take from traps and shooting continues very poor. Small nativeboys help out the situation by bringing in Pogonomys which they find in hollows in trees.

Ken out tonight with local natives on a hunt for water rats somewhere on the west ~~coast~~ side of the Mai-U River.

Sunday, August 9, 1953: Max. -- Min. 16 C. Relative humidity: 6:30 A.M. (clear) 91%; 1 P.M. 55%. Clear until about noon, then broken clouds and toward 4 o'clock overcast with spots of rain. Stars out tonight.

Morning spent in camp on yesterday's gatherings and getting dried material ready for transport to the coast. Field work downstream across river in afternoon. Mostly plants of the second growth rain forest, including 3 spp. of Macaranga.

We learn by bush telegraph that Patrol Officer O'Sullivan will arrive in Biniguni tomorrow. We have a transport to the coast planned for early morning, but it appears that in the general excitement over the visit of "Government" few carriers will be offering. And next Saturday Father Rogers, white missionary who was expected a couple of months ago, is again expodted to arrive.

Had planned to move to Peria Creek on the real lowlands tomorrow week. This is now advanced to next Friday.

Ken returned from his rat hunt haggard and with bloodshot eyes, and no rats. The usual story about "bloody natives" not doing what they were supposed to do. At any rate the locals of the party swatted a very desirable small bat, and Ken or his boy shot our second specimen of Dactylopsila.

Monday, August 10, 1953: Max. 35, Min. 17.5 C. Hot clear ~~xftax~~ A.M.; afternoon mostly cloudy; heavy shower 5:30.

Collected down river a mile or more to old Biniguni Village. A beautiful spot. Biniguni Creek drops from the escarpment in a 3 or 4-step waterfall perhaps 200 ft. high. Below the falls is a big blud pool, 100 yards across with a wide fan of smooth gravel and sand beach on the downstream side. Old village on a small alluvial plain on the west bank at the lower end of the pool and 12-15 ft. above the creek bottom.

Coconut, betel-nut and bread fruit trees. Only 3 houses now. The 1-mile map is wrong in that it has Biniguni Creek flowing into the Mai-U instead of the Gwariu (= Gwadi).

Government has not arrived and the bush telegraph service is silent on the whereabouts of the patrol. Our transport to the coast delayed until tomorrow at least. Villagers upset because they had food cooked for the mid-day meal of the police and carriers and now they must go out to the gardens for more food.

Tuesday, August 11, 1953: Max. 34, Min. 18 C. Relative humidity 6:30 A.M. 91%. Hot day more or less overcast with high broken cumulus clouds. Expect a downpour to follow this unusual heat.

For a hot climb of 500-600 ft. up the slopes of the escarpment across the river I have very little but a compass bearing by which the position of new Biniguni Village can be spotted on the map. Followed a crude trail to a garden house about 200 ft. above the river through taillo, taro and sweet potatoes planted in poor-looking rubbly soil. Taro newly planted (a month ago); the sets about 3 ft. apart and in a hollow about 4-5 inches deep, perhaps to give the tender growing tip of the plant protection from the heat of the surface rubble.

No news of the government. Many visitors in camp - Maicin people from Ailala Village on the coast, who arrived in Biniguni this A.M. to attend a "dance". Pigs are being exchanged. The dancing is to be tonight and tomorrow night. Most of the Biniguni men spent about 2 weeks on the upper Mai-U River hunting for meat for the occasion. They returned yesterday, reporting poor luck.

The Maicin are a taller and heavier people than those hereabouts. More sophisticated. Have a bad reputation as thieves, etc. The men cast appraising eyes over

everything and wear a leering expression. From them Geoff bought 5 good saltwater crabs, carried alive from the coast this morning for a few sheets of newspaper and two boxes of safety matches. Mighty good eating.

There is a recent inflation in the value of newspaper which I cannot understand. For 4 or 5 full sheets of the N.Y. Times or Tribune one can buy a good bunch of bananas. The high value placed on the paper can hardly be because it is American. Fortunately we have a good surplus brought from the U.S. for interleaving my dried herbarium specimens.

Ken left for Baiawa early this A.M. with a transport of 22 loads, including several of specimens. Extra carriers offering - 6 men and 5 women - took drums of foodstuffs and 2 cases of meat to Opaigwari Village where they will be stored in the councillor's house for use at our Peria Creek camp.

Wednesday, August 12, 1953: Max. 35.5, Min. 19.5 C. Overcast and sultry; heavy shower 1:00 - 1:30 P.M.; starry night. Clouds black over the mountain all day.

Botanized down river and near the bend of the Gwariu found a strip of swampy rain forest with a small stream flowing through it, evidently from a spring. In this moist habitat were a number of plants previously met with only at our 700 m. camp on the mountain.

Ken back from Baiawa in afternoon. Reports very dry conditions there; most of the grasslands have been burned.

Thursday, August 13, 1953: Max. 33, Min. 20.5 C. Sultry again and almost completely overcast. The river 9 inches lower than when we came here, indicating no rain of consequence on the mountain.

Packing up in preparation for our move to Peria Creek tomorrow. This has been a good locality for insects and herps, discouraging for mammals, only fair for plants. My proceeds are 313 numbers (including 37 bryophytes), 1446 herbarium sheets of specimens. Many of the plants are species of the ______ (illegible) rain forest of the river bed and flood banks. The primary forests have been disappointing. This is the middle of the dry season in the area and therefore not the best time for collecting plants, but the primary forest is actually poor in species.

Bats from the caves at Maneau, and Pogonomys brought in by natives, have boosted mammal numbers, but results from trapping and shooting have been poor.

Mammal collections from Biniguni Camp: 368 specimens, 20 species. The Mt. Dayman-Biniguni series of camps has yielded between 50 and 60 species of mammals.

Geoff's collections from Biniguni: Insects and spiders 1800; other invertebrates 53, Fishes 70, reptiles and amphibians 220.

Friday, August 14, 1953: Peria Creek, Kwagira River.

Had more carriers than we needed for our move from the Gwariu to this camp. Left the Gwariu at 7:35, stayed a few minutes to collect cargo from the resthouse at Bini-

guni, and arrived here 10:15.

Our new camp is on a point of ground at the conference of ______ Creek with the Peria. Altitude about 50 m. The creek names we have from the natives are not to be found on the 1-mile map of 1944. I think the Peria is the Ailok of the map, and the __________ the Ginum. If this is so the government track, which we followed from Biniguni, should be more than a mile to the north of the crossings shown on the map.

Many of our 70 carriers today asked for money instead of trade tobacco in payment. Some few wanted kerosene. Payment for the trip was 4 sticks of tobacco or three shillings. Carriers were from Biniguni, Budmag and Opaigwari villages. About dark the Opaigwari councillor turned up with 8 women with string bags loaded with taro, sweet potatoes, pumpkins, bananas and greens. These friendly foothill people have done a great deal to help us; first in carrying on the mountain, latterly in providing fresh food for ourselves and boys.

Late in the afternoon a policeman arrived from Baniara with mails, including letters posted in New York as late as July 29. Also a note from Peter O'Sullivan saying he expected to arrive at Wapona tonight and Biniguni tomorrow.

Sky overcast all day. No rain.

Saturday, August 15, 1953: Another rainless day, about 50% overcast. All hands busy rigging camp, making work tables, storage pata-patas, digging latrines, etc. Everything shipshape and comfortable this evening.

About mid-afternoon Father Rogers of the Anglican Mission arrived from the coast and stopped to drink tea with us on his way to a mission outpost between Opaigwari and Budmag. Pleasant fellow who seems to take a realistic view of the native. Had 14 boys and girls carrying his belongings. Young kids up to perhaps 12 years of age, plus 2 Budmag men. Rogers thefirst white man we have seen since early May; pumpkin tips from Opaigwari the first green vegetables in that time. Refreshing experiences, both. Besides pumpkin tips we have taro tops and the 5-lobed leaves of a species of *Hibiscus* as greens.

Sleeping lightly in a strange camp last night, the variety of noises I heard was amazing. Leaves from a deciduous tree landing gently on the fly stretched over my tent; many different insect and frog sounds; the fluttering of small bats; boys stirring in their camp across the creek, several cracks and dull crashes of dead limbs falling; the quarreling of fruit-bats high in a tree, Geoff snoring and figeting in the next tent; and about daylight a loud, repeated half-roar, half boom which must have been made by a cassowary, but it was a sound new to me.

Sunday, August 16, 1953: Overcast all day and enough rain in the morning to interfere with fieldwork. Collected down the creek for about 3/4 mile. At camp the stream has stable banks and at this season only pools of clear water. About 1/4 mile down its character changes. The

tual, and strikes [illegible]-10-15.

[illegible] with the Patis. [illegible]

[illegible]

Late in the afternoon [illegible] and discount her price.

[illegible]

[illegible] August [illegible], 1933. [illegible]

[illegible]

[illegible]

Monday, August 28, 1933. Professor Williams and [illegible]

bamks are low and actively eroding, the channel narrower, and all pools are connected by running water. Many big trees have been undermined and toppled into and across the creek, the vegetation of the banks is tall brakes of wild sugar cane and low ______? rain forest, and obviously the stream spills over its banks in flood time.

Pig rootings and tracks numerous. Bird life abundant.

Insects are coming in well. Few mammals so far; six species trapped or shot include 3 of small bats new to the collection.

<u>Monday, August 17, 1953</u>: Fairly sunny A.M.; afternoon overcast; continued heavy thunder to S & W 4-5 P.M.; light rain 3:30 - 6 o'clock.

Expecting both O'Sullivan and Rogers from the direction of Biniguni. I worked along that trail this morning. Fair results without touching big trees. A greater abundance and more species of mosses than I expected. Many big trees in theforest; the largest being Ilimo (<u>Octomeles</u>).

Met Rogers about 11 o'clock and he lunched with us. Well-built brunette in about middle thirties, from Sydney; saw service in New Guinea with Australian Army Medical Corps during the war; forsook Methodism (too puritanical and limiting) for the high Anglican church; was ordained in Australia; has been in charge of this mission area, with headquarters at Mukawa, for 2 years or more.

Rogers volunteered the information that so far as his inquiries go we are regarded by the natives as plain gatherers of plants, rats, etc., and have not had any disturbing influence in his district. He doubts if there is any stirring of cargo cult. I suggested that if there is any, it may be centered in Medino village on the coast.

Rogers took letters which will go to Samarai by his bishop's boat during the weekend.

<u>Tuesday, August 18, 1953</u>: Pleasantly sunny day; heat not oppressive; about 1/4 inch of rain beginning 5:15 P.M. Water level in a pool at camp going down at rate of about 1/2 inch a day.

Expecting the government patrol. I spent only 2 hours of morning in the field, up right-hand branch of creek. Running water for about 1/4 mile then small pools. Creek breaks up, banks low and much of forest subject to flooding.

Peter O'Sullivan arrived at noon behind his party of 4 police, native medical assistant, cook and 27 carriers. Sent party on to Kwagira and stayedfor lunch, leaving 4 o'clock.

Peter doing the annual census of native population, medical and sanitation inspection. Failure to show up for census is a punishable offense, and the annual census is the only way of getting a thorough medical check. Sick people are often hidden from the native orderlies in charge of the scattered medical aid posts and the patrolling European Medical Assistant. Peter has already sent 30 cases to Baniara hospital

[illegible]

[illegible]

[illegible]

[illegible] continued [illegible]

[illegible] building [illegible] (Ledbetter).

[illegible]

[illegible]

[illegible]

[illegible] about 1/4 [illegible]

[illegible] in the field, [illegible] 1/4 [illegible]

[illegible]

[illegible]

for treatment. Cases mostly yaws, which is readily curable by injection of NAB.

Wednesday, August 19, 1953: For in tree tops at sunrise; heavy rain 9-9:30 A.M.; sunny and humid later with strong, localized gusts of SE wind which swayed the big forest trees and brought at least half a dozen crashing down within hearing of camp.

About 8 A.M. a policeman arrived with a note from Peter at Kwagira. He planned to leave Moi Biri landing by canoes for Baiawa at noon. High tide expected then (this is a one-tide-a-day coast). He had a fatherly talk with the Kwagira people about our stolen case of meat and they have offered to pay for it. The invoice cost to us was £7-12-4 which would be a great deal of money for the natives to get together. Have proposed that if they carry 50 loads from this camp to Moi Biri Landing, we will call it square.

Ken left after the rain with 9 carrier loads of specimens, etc., to meet Peter at Kwagira and travel with him to Baiawa. Much needless disturbance and interference with everyone's routine. He will be away about a week on a reconnaissance of the entrances to the bat caves at Tapio, about 25 miles E. along the coast from Baiawa.

Thursday, August 20, 1953: Max. 28.5, Min. 21 C. Heavy rain last night beginning 11:50 and ending 3:30. Expected the creek to run but water rose only 3 inches in a pool in front of camp. Today 50/50 sun and overcast; a few showers after noon. The weather appears to be from the SE.

Worked down the Kwagira road to the first creek crossing (about 20 minutes walk). Ground lower and wetter than about camp and toward Biniguni, soil rather clayey, forest very tall, but the canopy discontinuous and much scrambling *Calamus* and other growths underneath. Largest tree in the forests of this whole area is Ilimo (*Octimeles*), which must be fully 150 ft. high and 4-5 ft. in diameter above the buttresses.

Awani people brought in about 140 lbs. fresh food.

Last night Van shot by jacklight a tremendously big bandicoot (*Peroryctes*) 31 inches long and weighing 10½ lbs. A much smaller example of the same species brought by a native this P.M.

Friday, August 21, 1953: Max 29.5, Min. 22 C/ Mostly overcast, sultry day; no rain.

Followed an old, partly overgrown government trail which begins in camp and goes approximately SW through tall forest between the right and left-hand branches of the Peria. The right-hand branch, which I take to be the Ginum, reached in about a mile. Gravelly bed about 100 yds. wide and quite dry. Gravelly low ridges for last 1/4 mile. Collecting not good. Hard to see in the tall forest in dull weather.

Interesting species included a big *Orania* palm 70-80 ft. high, and a small *Ophioglossum* with veniform leaves common on the forest path.

Every day, by one way or another, I collect one or two of the big trees. Today it was a giant of the Meliaceae vine with which the ground was strewn with fruiting branchlets broken off by feeding hornbills.

Every day there are little incidents, biological and otherwise which go unrecorded. This morning the buzz of blow flies drew my attention to a beautiful, stinking veil fungus growing beside the forest path. The flies were attracted by the slimy brown apex of the plant, below which, draped in folds, hung the pure white lacy veil. A color photo without tripod impossible with a light meter reading of 1.6.

Back in camp, after lunch, there was a little boy trouble. During the morning Awani people brought food which was bought by Geoff with salt and newspaper. While eating, I noticed four women walking down the bed of the creek, one carrying an axe. Soon they were back with four bundles of split firewood, which the cook reported they wanted to sell. Whether the wood getting was done as a try-out, or at the behest of our boys, I don't know. Approaching the matter indirectly, I called all the boys and asked whose axe the women had used. It was just one of the two camp axes. The women took it while no one was looking. Boys dismissed. Presently there were loud words in the boys' camp. Sigamotu, "the Bull" who did most of the defense talk at the inquiry, had slapped his behind at the cook, picked up a 16-inch knife, and challenged him to combat. Cookie said "No, but I'll take you on with my hands". No fight. I had notice that the two involved were going to ask me to "hold court". They thought better of it and I let the matter drop.

At 8 P.M., while I was writing notes, a policeman walked smartly into the lamplight with rifle on shoulder and handed me a radiogram. He had come brom Baniara in two days! The radio, from Buntings, advised that Smith's boat would meet us at Baiawa September 10 and transport us to Samarai. There was also a short letter from Smith dated Aug. 12, saying he had written me a month ago about the transport and expected a reply. I wrote him June 23 and received no answer. Wrote a reply to the radio and a letter to Smith and by 9:30 the policeman, having cooked and eaten a feed of rice and received a present of tobacco and matches from me, started back along the trail for Baniara. He will probably set a record for the round trip of about 120 miles.

Saturday, August 22, 1953: Max. 27.5, Min. 19.5. Clear until late in morning; good shower 2-2:30; clear moonlit night.

Collected up the right-hand branch about 3/4 mile. Good visibility and the best day's gathering I have had at this camp. A number of epiphytes from trees on the banks, among them *Dendrobium Smilleae*, familiar from the Fly River country and NE Australia, and the remarkable *Ophioglossum Pendulum* with ribbon-like leaves up to ________ long.

Geoff and his two boys lost in the forest for several hours somewhere west in the direction of the Rakua River.

Van acquiring many specimens by purchase from people of Opaigwari, who come in daily bringing mostly Pogonomys and small bats which they find in hollow trees. Results from traps very poor. New lines set today on a good running creek to the east.

Sunday, August 23, 1953: Max. 30, Min. 19 C.(about 87 & 67 F.). Some overcast in mid afternoon, otherwise clear. No rain. Pleasant day, air noticeably drier. Best drying day in this camp for mosses and antibiotics materials put out in the sun.

Quiet day in camp. My time spent in preparing plants on hand. Sent boys out to cut big trees but they got only one (Meliaceae). First cuscus for the area shot last night, but only 4 rats in 160 traps. Four species of fishes seined by Geoff from pools in the creek.

Only visitors were a handfull of Biniguni people with betel nut to trade to the boys. Boys bought a young cassowary from them for a tin of meat. Bird quickly killed and eaten, Van getting half the liver. Best liver I know of.

Monday, August 24, 1953: Max. 30, Min. 18 C. Clear day; bright full moon.

Followed the left-hand branch up a mile or so to where the banks became high and the completely dry bed was arched over by tall forest. Fair bag of plants including a big very prickly Calamus in fruit. These rattans or "lawyer canes" are about the most difficult plants to collect.

A case of suspected serious illness today. After I had gone into the field Sigamotu was reported sick in the belly. Was examined by Geoff and Van and given 2 tabs of diodoquin, specified for amoebic dysentery. (Both of them have taken the drug in the past few days for upsets caused, I think, by a fouled waterbag). Upon visiting the patient I found him looking seedy but temperature was normal and he had missed out on his customary morning visit to the small-house. Had eaten nothing out of the ordinary except some very tiny bananas which a local native brought in yesterday. Finally I discovered that last night he want "kava-kava" (amok), let out some death wails, and ran off into the forest pursued by two comrades who brought him back and put him to bed. Suspect he was responsible for the firewood incident of a day or so ago and felt that the women having received no pay, put a curse on him via the dwarf bananas. I heard the wails in the night but thought one of the boys was fooling as they often do in their camp.

Otherwise, the emphasis today has been on fish. On the way up the creek I came upon a man and his wife poisoning a small pool with "New Guinea dynamite" using a root cut into about 15-inch lengths, pounded on a log, dipped into water, then wrung out, making a milky cloud in the pool. The stupefied fish floated bottom up. Crayfish,

unaffected by the material, soon began nipping the tails from the very small fishes which were not taken by the poisoners. The root did not appear to be Derris. Asked the man to collect me a sample with leaves and if possible, flowers or fruits.

After lunch Geoff took the minnow seine to the running stream to the east. Some of the catch contributed to a seven-course dinner: Boiled crayfish with the evening spot; fried fish, soup, curry and rice, baked taro with butter, stewed dried apricots with sliced bananas, coffee. All we lacked was the wine.

Tuesday, August 25, 1953: Max. ___ , Min. 20 C. Mostly dull day with sprinkles of rain late A.M. and a smart shower or two P.M.

Had a very poor collecting on a long trip up the Biniguni trail, then east to a dry creek which I followed down to where the trail crossed it. Most striking plant a Gulubia about 35 m. tall. Perhaps the tallest palm I have seen. The tender heart very good eating.

Ken returned from his trip to the caves at Tapio with a Rhinolophus, small Dobsonia, and report of the abundance of big Dobsonia. Saw 4 entrances, only one of them enterable without ropes. High ceilinged cave (about 30 ft.); no side passages or other branches seen.

Boys seining in the creek to the east in P.M. Number of small fish and one of about 2 lbs. and one 2½ lbs. The big fish bream-like and dark colored. Have never eaten better.

Wednesday, August 26, 1953: Max. 27, Min. 20 C. Some showers during last night; steady rain all day, slackening toward sundown.

Field work at a standstill apart from the running of trap lines and collection of a few plants near camp. Writing letters and reading old periodicals. Geoff and Ken started to work out food supplies needed for Goodenough Island.

Thursday, August 27, 1953: Max. 27, Min. 21 C. Rain ended some time last night. High, wild-looking overcast at dawn, drifting from SE. Little sun today.

Good morning in the field up the right-hand branch. My second Calamus from the area, a big pink Begonia not seen before, a Planchonia common as a canopy tree, etc., etc.

Ken to Opaigwari to arrange for a few carriers for Monday, ask the people for more fresh food, etc. Reports the councillor very ill. Another case of evil wrought by sorcery. There is veritably a devil under every bush in the mind of the New Guinea native.

Friday, August 28, 1953: Max. 27, Min. 22.5 C. Showers before daylight; heavy rain 10 - noon; still overcast tonight; wind from NW (cloud drift) in P.M.

Morning's field work spoiled by the rain which drove me back to camp. Tried to cut through directly east to the next creek but was stopped by tangles of lawyer cane which would have taken much time to go through. Several good lants included two epiphytic ferns new to the collection (a Cyclophorus and one of unknowh genus) scavenged from a great tree which fell during the heavy rains of a week ago. Most big trees yield an epiphyte or two and maybe a liana to swell the collection, deciduous trees being most productive.

Geoff started to cut trail toward the Rakua River on a bearing of 315 degrees.

Saturday, August 29, 1953: Max. 30, Min. 22.5 C. Light rain through much of night; sun and showers in morning; heavy rain with thunder 5:30 - 6 P.M. Sultry day; cloud drift from NW.

Followed a faint trail ca. SE through the forest and in 1-1½ mile came to a big garden with a house in the middle of it owned by the Guitabna (Awani) councillor, who was sitting there, making a comb and talking with a crony while 3 women weeded the taro.

A policeman from Baniara with a radiogram from Forest Botanist Womersley, who hopes to join us on Goodenough Island.

Sunday, August 30, 1953: Max. 30, Min. 22.5 C. Rainless, partly cloudy hot day. Very humid after the rains. Cloud drift from NW.

Went to Opaigwari (Geoff and Ken too) to photograph the natives in their dancing array. The Maiva people of Opaigwari and Awani villages put on the first show. Later in the morning the Daga people of Biniguni made a formal entry, dancing down the track in double file, drums beating, head-dresses bobbing, in charge of their chief who carried a ceremonial spear decorated with white cockatoo feathers. Approaching Daga greeted with cries of Orokaiva (friend, or peace). A little dancing back and forth, conducted by the chief, who soon retired to the shade of a front porch to chew betel-nut with other head men. Dance carried on by combined Maiva and Daga, a few young women doing the steps at the ends of the double line. Some good head-dresses, mainly of cockatoo feathers; some red bird-of-paradise plumes. The most important men (Biniguni chief and Awani councillor) were without head-dresses but wore long, ornamented bars of tortoise shell horizontally through their back hair. Alternating sunshine and cloud made color photography difficult. Made shots of the dancing, head men, etc. Ken used black and white from which we have promised to send prints.

A friendly and colorful show, not marred by a try-out on us in which the Opaigwari counciller failed. For a week or more he had talked of killing a pig and giving a feast for our party. Yesterday he came to camp and announced that this would be the day. Also stated he would expect in return 3 pounds in money and 20 tins of

bully beef - total over 7 pounds. His pig was declined.

The photographing over, I went to the Rakua River nearby for a day's collecting. Braided flood bed a good half mile wide; coarse gravel and cane grass islands. Main stream about 100 yards across, running fast and turbid and not crossable today. River bed very hot and almost a desert botanically. Ate lunch in second growth rain forest on the bank, then worked back to the main trail between the village and camp. Back in camp at 4:30.

Monday, August 31, 1953: Max. 30.5, Min. 21 C. Day clear until late afternoon when we had a little rain from a thunderstorm. Cloud drift from SW.

With Awani and Opaigwari carriers, Ken took 13 loads to Kwagira and left them in the resthouse for transport to Baiawa on Thursday.

Spent day on plants gathered yesterday and some brought in by my boys this morning.

An awani native brought me roots and leaves of the fish poison ("New Guinea Dynamite") which they call Duba. Perhaps a Derris, it is planted about the villages. The name Tuba(and its variations) for Derris is widespread.

Opaigwari councillor brought a leg of his pig as a "present" for our boys, which we bought for 2 tins of bully beef and some salt.

Tuesday, September 1, 1953: Max. 31, Min. 21.5 C. Dull most of A.M.; ditto P.M.; distant thunder to SW late afternoon; light rain started this evening about 7 o'clock.

Collected toward the Rakua on a disused old trail which leaves the Peria about 1/4 mile below camp. Distance about 1½ miles. Low lying country no doubt semi-swampy in wet season. Poor forest with scattered big trees and much Calamus and other vine growth. Crossed 3 small running streams with gravel bottoms, and turned back at a fourth. Scared up a wild pig; little bird life.

Geoff took lunch out and completed his trail to the Rakua. Walk of about 1 hour 20 min. From where he struck the river the Gwariu Gorge was about 190 degrees magnetic. River broad, with gravel bottom and many cane-grass islands. Cane-grass mostly burnt. Muck the same as at Opaigwari, not more than 2 miles upstream.

Wednesday, September 2, 1953: Max. 30, Min. 22.5 C. Dull until late A.M. clear P.M.; no rain.

Collected on a circuit beginning about 1/4 mile NE of camp where a spring-fed stream rises close to the Peria. Followed this "Spring Creek" about 3/4 mile to its junction with the Peria, then up the Peria to camp. Spring Ck. carries twice the volume of water of the Peria. Crossings of both streams well over my knees

in places. We appear to be camped on a spring line parallel with the mountains. No rock outcropping anywhere in the locality. The nearest approach a pale reddish compacted clayey loam exposed under the alluvium in the creek banks.

David and Tomi to Baiawa to ask the Village Councillor to send canoes and men up Moi Biri Creek to meet Ken tomorrow. They will remain at Baiawa until we arrive there Monday next.

Thursday, September 3, 1953: Max. 28, Min. 21 deg. C. Clear day after about 9 A.M. In the normal dry season weather we have had the past few days, low clouds drifting from the SE are a regular thing from about dawn to some hours later in the morning.

Followed Geoff's Rakua trail for 1-1½ miles. Much Calamus entangling the forest for 1/2 mile or so, then a few hundred yards of young secondary rain forest fringing a deep creek. Small waterholes in gravelly bed of creek, and an old village site, recent enough to be still partly open and grassy, about 100 yds. upstream from the trail crossing, on west bank. Crotons, Caesalpinia pulcherrima, betel-nut and coconuts in old village clearing. More regrowths off west bank, then primary forest on slightly ridgy ground. This forest full of pig rootings. Scared up a giant bandicoot which showed an amazing turn of speed as it dashed off through the undergrowth. Poor bag of plants.

Ken left for Baiawa at 8 A.M. with seven carrier-loads (half specimens).

Have been economizing on smokes lately. A replenishment supply of cut tobacco for cigarettes, invoiced as having been sent parcel post from Samarai June 23, has not arrived. This morning I had only a few shreds of tobacco left, Geoff half a tin, and we both started to smoke trade twist. Smoked two cigarettes of this powerful stuff, and decided I did not need tobacco that badly. After 6 hours I was getting along alright when I happened across an overlooked can of fine cut in my collecting. Geoff refused to take more than a pinch of it, so now I am smoking again - for a couple of days. We have a few packets of American cigarettes in reserve at Baiawa.

Aweni people inform me that the former village NW of camp was called Dudud. Opaigwari people, now "old", had gardens there and built houses. Should say the site has not been abandoned more than five years.

Friday, September 4, 1953: Max. 29.5, Min. 18 deg. C. Clear rosy dawn; mostly overcast after 9:30. Cloud drift from NW at dawn (5:45), then SW; most of day SE. Starry night as is pretty general here.

Day spent in camp making photos and attending to collections including cuttings and palm seeds for the Fairchild Tropical Garden and some things gathered up the right-hand branch by my boys this morning. Am pickling plants which cannot be dried out in the time remaining to us in this camp.

Saturday, September 5, 1953: Max. 28.5, Min. 19.5 deg. C. Overcast; rare glimpses of sun; light rain in mid afternoon.

My last collecting day at this camp. Made photos of forest interior. In afternoon took my boys fishing with the minnow seine. No fish.

About 7:30 A.M. a policeman arrived with mails mostly from home. No tobacco.

Ken back from Baiawa, reports collections and stores in good order there.

Sunday, September 6, 1953: Max. 26.5, Min. 21.5 C. Another overcast day; occasional squally showers from SE.

Tonight everything but tents and flys and personal swags is packed and tied into carrier loads for evucation of camp tomorrow.

This Peria Creek has been more productive in plants than the first few days in the field led me to expect. Numbers are not high, but quality is good and the collection will give a good view of the flora of the rain forests of the coastal plain. Many big trees and canopy lianas included. Numbers: 335 including 57 bryophytes. Herbarium sheets: 1527.

53 mammals of ___ (?) figure illegible) species have been collected here. Genera: Dactytopsila, Disticheurus, Phalanger (2) Dorcopsulus, Peroryctes, Echymipera, Petaurus, Rattus (2), Melomys (2) Pogonomys (2) Uromys, Hydromys, Dobsonia, Miniopterus, Hipposideros (2) bats of 43 unidentified genera.

This has been the best of all camps for Geoff. Many butterflies and moths, dragon flies, and especially beetles. Collections: 14,600 insects and spiders, reptiles and amphibians (largely frogs) 453, fishes 78.

BAIAWA

Monday, September 7, 1953: Clear, not too hot day, perfect for our move back to the coast. About half the carriers we needed came down from Biniguni and camped near us last night. Others came from Budmag, Opaigwari and Awani this morning. By 7:55 we were on the way with 34 loads.

Rested 20 minutes in Kwagira village and arrived at Moi Biri landing at 10:55. No mud on the road and the streams considerably lower than when we traveled the road in the reverse direction four months ago. The Kwagira people had numerous tapa cloths hung up in the village, possibly with the idea of selling to us, but not a person came near us. Either ashamed or annoyed about the restitution they were obliged to make for the case of meat they stole.

Good clear view of Mts. Dayman and Goropu from Kwagira, but the upper parts of the former cannot be seen from there. Could pick out an area of fire-killed Araucaria forest edging on grassland to the NW of our Top Camp. Brown smoke rising from the summits of two of the peaks of Goropu; the first proof we have of natives visiting the heights of this 12,000 ft. mountain.

Wind southerly and Moi Biri Bay calm. Expecting rough water, we sent all but but two of our boys around the bay by road from Kwagira and they arrived a couple of hours before our five canoes. We had to wait 3 hours at the Moi Biri landing for the tide to rise enough to float the canoes which had come up the creek on the previous tide.

All our collections and other possessions at Biawa in good condition. Ken had rigged a fly over a high platform near the edge of the mangroves to accommodate our less valuable cargo until the arrival of the boat expected on the 9th or 10th.

Dayman completely obscured by haze and cloud in the afternoon. Most of the grassland about Baiawa has been burned and carried a green shoot a few inches to a foot high. Air very noticeably drier here than inland in the rain forest areas we have worked in for the past six weeks.

Tuesday, September 8, 1953: Pleasant day, clear but for a haze which blotted out the mountains after early morning.

Camp busy checking collections which have accumulated here and getting them ready for loading on the boat. All the village men out hunting wallabies. Place very quiet, even for a small gillage of 7 houses. But last night, and at intervals all through today, we had the crying of a peevish baby to listen to. The same child put on the same performance when we camped here back in May.

In afternoon a policeman arrived from Baniara with a batch of American mail dated as late as August 25th. Extraordinarily fast time for letters from home.

Wednesday, September 9, 1953: Hot hazy day with little breeze and that from NW late in afternoon. Mountains of main range obscured after early morning. The mountains on Cape Nelson have not been visible since our arrival.

My packing done, I did some collecting in the brushy gully forests near camp and the taller rain forest up to about a mile east along the Medino trail. The brushy forests are perhaps secondary and many of the small trees composing them are decisuous - some flowering and in fruit. The taller rain forest is evergreen and I found nothing there in flower or fruit. A clearing of about an acre in the tall forest may have been the site of an American observation post said to have been somewhere in the neighborhood during the war.

Baiawa natives out on another wallaby and pig hunt today with long black palm spears and heavy nets (photographed). They returned lage in afternoon with a pig cut in pieces and several wallabies and bandicoots, carried on poles between two men.

Smith's boat "Cape Vogel" arrived about 3:30 P.M. Took Ken and went on board. Seems we have been delivered into the hands of a holdup gang. Price asked for transporting us to Samarai is £125, reckoned at £25 per day for a five-day charter. On protesting, I was told by Smith that Steamships Trading Co. had taken over his business recently and that the rate had been set by their manager, Paul. Nothing to be done about it now. We have to go on the boat or stay at Baiawa an indefinite time until another charter could be arranged by radio from Baniara, 3 day's walk away for a white man.

With the proceeds from their hunt, and garden produce, the villagers put on a dance and feast for our boys tonight. Drums going until about 11 o'clock, and after all had gone to bed a dog took over, howling at his echo in the hills.

All but last minute cargo loaded on the boat before dark.

Thursday, September 10, 1953: Left Baiawa 6:45 A.M., arrived at Smith's Tarakururu wharf and store 1:05, and left for Samarai 4:05. Course from Baiawa close in to the shore to avoid the SE wind. Plenty of water, although further out the sea is much obstructed by reefs. Eight big fish, mostly kingfish, caught on towlines.

After lunch at Smith's place I walked inland about a mile. An extensive, somewhat undulating plain of coral limestone reaches back to grassy hills. Plain grassy with small patches of dry brushy secondgrowth forest intermediate between rain and monsoon types. Kleinhovia hospita and Pipturus the most characteristic species. A big banana garden on very rocky coral ground at my furthermost point.

Smith has 300 acres of land on perpetual lease from the government. A very good small harbor in the mouth of Tarakururu Creek with 7 fathoms of water. Good small wharf with 2 fathoms. Work on a 50 x 30ft. store almost completed. Mangrove ("orange mangrove") timbers and Japanese galvanized iron. Lot of money being spent. Smith a visionary booster. His wife and two children will join him in December.

Friday, September 11, 1953: Ran all night; rounded East Cape at 6:20 A.M. and tied up at the small ships wharf at Samarai 11:40. Rough sea off the southern tip of Cape Vogel. Charter finalized at £100 after consultation with Miller of Buntings. We were robbed. A charge of £75 would have been equitable.

Saturday, September 12, 1953: Geoff and I to the hospital first thing in the morning for medical examination by Dr. Sirko. A disturbing report on Geoff. Since Wednesday he has had only partial use of his right arm. Sirko diagnoses it as the effect of a slight paralytic stroke; heart in bad shape. No more mountain climbing for Geoff. X-ray photos show that my shoulder trouble is only muscular; no injury to bones.

Called on Acting District Commissioner Rutledge to discuss plans for work on Goodenough Island. Rutledge has been on the island - he evacuated the native population from parts occupied by US forces during the war - but he knows very little about the interior. He will have a radio conversation with Greeney, ADO as Esa'ala, who has done extensive patrolling on Goodenough and should be able to advise on the best route up the mountain which comprises the bulk of the island. So far as I can ascertain, only two white men have climbed that mountain. The first ascent was made sometime pre-war by Clem Rich, from Wataluma Bay on the north coast, the second by a mosquito control officer (Strong) of the Australian forces during the war. I had hoped to talk with Rich on this visit to Samarai, but he is away in Australia on leave. The story is that he climbed the mountain on a bet for a case of rum.

Wednesday, September 16, 1953: Our collections have been stacked in storage, gear and supplies reorganized, and stores bought for Goodenough. All we need is a boat to take us there. There has been strong squally SE weather for several days and boats are delayed.

From radiograms exchanged between the District Commissioner, Samarai and District Officer, Esa'ala, this information has been gathered: There is no lake on Goodenough; the "route to Oiamadawai Mountain is Vivigani to Wakonai to Tutuwananakabu Village. Then track must be cut straight up round trip about two days"; there is at Esa'ala an interpreter who accompanied Rick on his ascent of the mountain. Oiamadawai is an eastern peak of the big mountain and it does not look especially attractive from the 1-mile map. We should be able to get valuable information from the native interpreter at Esa'ala.

Geoff will return home via England, beginning the journey on the "Malaita" which is expected to sail from Samarai for Sydney about the end of this week or beginning of next. Buntings have radioed for a passage on a P & O ship due to leave Sydney for England October 9.

We are taking insect and herp. collecting gear to Goodenough. Ken Wynn has offered to collect these groups in his spare time.

Saturday, September 19, 1953: Still in Samarai. The weather moderated yesterday and late last night the "Jessie", which is to take us to Goodenough and has been sheltering somewhere in the eastern islands, arrived in port. Almost constant heavy rain today has prevented her unloading a cargo of copra. Early this morning, before the start of the rain, it seemed possible for us to load this afternoon and get away tomorrow morning. Now the liklihood is that we will be here until Tuesday.

A 10,000 ton ship, the "Ernebank," which came in early in the week to load 1000 tons of copra, is tied up at the wharf with her slings idle. A Banks Line ship. She picks up copra through the islands and carries it to England.

Paid off Geoff's two boys, Bili and Sigimotu. We will return them to their villages on our way to Goodenough.

Ken and his boy David have broken up again, this time for keeps. So we will go to Goodenough with only 7 native helpers. David, a Morima (Fergusson Id.) boy, has been exceptionally good as a hunter of mammals. He has been paid six pounds a month. Very high pay for this country and it seems to have gone to his head.

Passage to England from Sydney has been booked for Geoff on the Orient liner "Oronsay" due to sail October 10. The "Malaita", on which he will go to Sydney from here, is delayed on her New Guinea - northern Solomons run and will not arrive until next Thursday at the earliest.

Monday, September 21, 1953: Heavy rain through most of the morning, but managed to get our cargo loaded. Left Samarai 2:25 P.M. on the "Jessie"; native skipper named Roach - abbreviation of Cockroach. No rain after we left Samarai. Calm sea and bright moon when we reached Esa'ala (ca. 75 miles from Samarai) at 4:25 A.M.

Jessie on charter at £17/10/- per day. Carried some cargo for points in the D'Entrecasteaux Group, especially for Sewataitai Plantation, Sewataitai Bay, Normanby Island, which the boat will drop on her return voyage.

Tuesday, September 22, 1953: At 6 A.M. called on Patrol Officer R.E. (Bob) Greeney and were invited for early morning coffee, then breakfast. Greeney a fair-haired energetic down-to-earth type, probably not over 30, in administrative service 2 years, Patrol Officer in rank, acting as District Officer. Assisted by Bill Hunter, Cadet Patrol Officer: heavy, slow, red-faced young Scot speaking with a thick burr. District takes in all of D'Entrecasteaux Group; population of about 30,000 natives and 30 whites, the latter nearly all missionaries (mostly Methodist, of whom 12 are stationed at Salamo on south end of Fergusson Id.; a few Roman Catholics who have opened missions since the war).

Esa'ala is on the NE corner of Normanby Id., and in Dawson Strait. Good anchorage at all seasons. Small wharf at end of a causeway of loose stones; tramway; water very clear (said to be the best at any Papuan port) piped down from nearby mountains; toilets and showers on wharf. Qantas flying boat on run from Port Moresby and Samarai to Rabaul calls fortnightly. Esa'ala government station was established by ANGAU (military administration) in 1946. On low ground; foreshore has been mangrove-fringed, and is only partly reclaimed with soil. Mountains rise steeply behind to 1000 ft. or more; lower slopes populated and partly grassy. Station laid out on a grand scale, the central feature being a playing field surrounded by a circular road hedged on both sides with clipped hibiscus. Gardens planted to peanuts, pineapples, etc., occupy an outer circle. Buildings partly of sawn lumber and galvanized iron, partly of native materials. Twelve police stationed here; usually about 30-50 prisoners in the jail. Mosquitoes said to be numerous and the locality malarious; houses of Europeans mosquito-screened.

Left Esa'ala 9:05 A.M. with Greeney, 2 police, an interpreter, and his cook as passengers. Greeney will spend a day or two with us at Bolu Bolu then do some patrolling on Goodenough.

Talked with Interpreter David at Esa'ala;(boy who was with Clem Rich when he climbed the mountain.) Says Rich climbed Oiamadawa-a (7090 ft.), a prominent eastern peak, approaching it from Lakulakua; track cut much of the way on the upper slopes. A native path leads over the top of the island from Wakonai Village behind Vivigani to Kuduia near the west coast. Natives hunt wallaby, burning the grass on the high peaks. Confirmation of the existence of a path, and information on hunting activities on the mountain are good news to us.

Dropped one of our two pay-off boys, Bili, at Ailuluai on south coast of Fergusson Id. and reached Mapamoiwa about 2:30. A medical air post and native hispital at Mapamoiwa in charge of EMA Charles Corbett. He had prepared a luncheon feast of roast pig and curried prawns for us, but we had already eaten on the boat. Al. Ramsden's recruiting vessel tied up at the small wharf at Mapamoiwa. Mapamoiwa is protected by an off-shore reef breached by a narrow opening opposite the wharf which is exposed to heavy seas in NW and SW weather and was not usable during the recent blow.

South or Morima coast of Fergusson has little or nore foreshore. Mountains rise to 2000-4000 ft. in steep slopes formerly rain forested, now covered with forest second growths. Few vestiges of the original forest remain, yet there is no grassland until Cape Mourilyan is approached. Climate and soil must be most favorable for forest or grasses would have taken hold. Population, and disturbance, must be heavy.

Hills on the east side of Kedidia Bay on the south end of Fergusson carry what appears to be a rather close savanna stand of small Eucalyptus trees. From Cape Mourilyan to Mapamoiwa, and to the head of Seymour Bay, smaller areas of this savanna were seen on dryish looking hills. Apparently there is no botanical record of Eucalyptus on Fergusson Id. or anywhere in New Guinea east of the Port Moresby dry belt. Am not sure that the tree is a eucalypt, but it has the general appearance of E. alba.

At this season new gardens are being vleared and planted. Many coconuts at villages along the coast, and in some groves whole thickets of young trees. Greeney says traders do not call on this coast to buy copra and the natives let the fallen nuts lie on the ground.

Left Mapamoiwa 2:50 and arrived Bolu Bolu, Goodenough Island, about 5:45. Bolu Bolu was principal landing place for Vivigani airfield during the war. Nothing left now of the several wharves except some piles and the built-up approaches from the shore. Methodist Mission said to have taken away much of the timber.

About quarter mile inland on a grassy slope is an abandoned patrol post which was erected sometime after the war, when war damage moneys were being paid to the natives. Post abandoned about 2 years ago; in charge of a native caretaker; consists of an office building and jail under one roof, 8 galvanized iron cottages for native police, etc.

and a medical aid post, the latter down on the waterfront. We are camped in the office building; galvanized iron roof and concrete floor; well built but timbers (American softwoods) being eaten by termites.

Wednesday, September 23, 1953: Heavy gusts of SE wind during the night and occasional rain scuds. Mountains very clear this morning. They are steep, and the crowning peaks craggy and grassy.

With the help of numerous natives from Nearby Beli Beli and other villages, had our cargo ashore and in the house by 9:30 A.M. Natives paid 1 stick of tobacco each. Rest of day spent in sorting and arranging stores and getting camp in order. Water has to be brought from a creek about 20 minutes away. A 2-wheeled cart and 2 fifty-gallon drums used for this. Formerly water was brought down from the hills by pipeline.

Village policeman from Wakonai, summoned by Greeney, confirms the existence of a track over the range from his village. Used frequently. Travelers sleep under a rock or in a cave near the top, but can cross in one day.

Thursday, September 24, 1953: Ken left for a reconnaissance of the mountain trail, and Greeney on a patrol around the north part of the island, both going as far as Vivigani on Ramsden's boat. Greeney proposes to climb the range from the west side and meet ken somewhere on top.

Botanized inland to the creek from which we get our water and followed a forest strip toward the hills. A note from Ken informing me of his opportunity to go to Vivigani by boat and decision to start for the mountains a day earlier than was planned brought me back to camp early. Forest seen all second growth rain forest, though large trees present. Most things gathered are new to the collection.

Friday, September 25, 1953: Gusts of very strong wind, day and night, are a feature of this locality. A sharp shower at daylight the only rain in 48 hours. Mountains cloudy more or less, and obscured by a brownish haze.

Botanized north along the shore to the mouth of a mangrove creek, then inland through a gully strip of old secondary rain forest to back near camp. The gully depression swampy in the middle and containing some young sago palms. The sago of this area is prickly, that of the Cape Vogel and Moi Biri Bay areas smooth.

Most of my plants today from the grasslands. Several square miles of grassland around here, broken by strips of rain forest along streams. No doubt an old secondary condition. A Themeda the dominant grass, Albizzia aff. procera the characteristic tree in a savanna stand (Albizzia deciduous and now partly bare of leaves.)

Van is doing well with mammals. Six species to date including 2 Rattus, a Phalanger, Petaurus, Pteropus, and Nyctimene. The latter an extraordinary tube-nosed bat, the long nose processes, leading edges of wings, etc., being an eerie green spotted with white.

All of our boys more or less sick with colds contracted in Samarai. About 50 or 60 local natives in charge of their village policeman spent the morning cutting the grass in the govt. establishment while not gazing in the windows to see what we were doing. A friendly nuisance. After living for months in thinly peopled country, it seems strange to have scores of people dropping in. Wherever one looks when out in the field, there are people moving on the tracks. Beli Beli, a mile or so inland, has a population of 400. These people have exterminated most of the forest and now cultivate the grasslands.

Saturday, September 26, 1953: Strong gusts of wind in camp which threaten to tear down a fly we have rigged for the cook. These gusts seem to be a local feature due to the hill formation. Inland a little way the wind blows steadily from the SE; the same applies on the south coast.

Examined the country inland along the old military road to Beli Beli village, nearly an hour's walk. For most part gently ridgy grassland on a black, friable, fertile-appearing soil. Grass waist high on average; mostly Themeda sp. Cattle should do well here. Rain forest confined to the streams and depressions and that all secondary although there are some big trees such as Pterocarpus indicus, Inocarpus edulis, and a mango. Most interesting plants were solitary examples of two orchids growing in the grass.

In afternoon Van, guided by the cook (Kim), walked about 2 hours around Nuatuiu Point to visit some caves near ________ Village on the coast of Moresby Strait. Three caves on a gentle limestone slope about 100 ft. above sea level and 3/4 mile from the shore. Caves high enough to stand in and the longest about 100 ft. One species of Hipposideros collected.

The fathers of my two Kalo Kalo boys visited camp today. Came across on the mission launch "Pixie" Tomi's father is village constable. Big man with great mop of hair and betel-stained teeth. They will return next Saturday bringing food, presumably for a feast.

Food apparently scarce here on Goodenough. This is the planting season. Natives have brought in a few sweet potatoes, pumpkins, a yam, tomatoes (good for New Guinea), papayas, limes and the best oranges I have eaten on the trip.

Sunday, September 27, 1953: Change in weather. Heavy shower about dawn. Others through day and evening. On the hills where I botanized this A.M. the weather was from the SW. Here in camp it is SE with even stronger gusts than usual. Higher mountains hidden until near dark. Ken may be up there in this weather.

Examined two strips of relic rain forest in gullies up to 600-800 ft. S & SW from camp. If not at some time cleared for gardens, the forest is very poor for a primary community. Pterocarpus and Mangifer the principal trees. Two nutmegs plentiful in substage. Loose rubbly

soil. Few ferns (3 spp.) the only ground plants other than a shortly creeping aroid in rocky places.

A small spring at 500-600 ft. altitude in the SW gully provided the water which was carried by 2-inch pipe to the government post. Have been told that the piping was removed and taken to Mapamoiwa, but whoever supervised the job did not climb far and much of the pipe is still there.

On the lower east edge of the south gully is a newly planted native garden on recently cleared rain forest land. Slope fairly steep. Soil blackish and somewhat rubbly. Logs laid across the slope to control soil drift. Yams planted several(3-5) feet apart on mounds 18-24 inches high, about 4-10 in. of the yams protruding above the soil, some of the larger ones propped up by forked sticks, some wrapped in banana leaf sheaths. Bananas and taro planted in odd corners. Garden photographed.

Monday, September 28, 1953: Usual strong SE gusts until about noon in camp, then a steadier wind from about SW. Evidently a change in weather. For the first time the peaks were clear this evening. At noon there was a gust of wind so strong that as I raised water in cupped hands to wash my face it was blown clear away.

Spent the morning in a big strip of rain forest in the valley of the first creek west along the old road. All old secondary forest, I believe. Tallest trees about 80-100 ft.; plentiful woody undergrowth of few species easy to get through. No herbaceous plants in forest away from trails. Ground thinly covered with dry leaves. Principal canopy trees include Mangifer, Ficus sp., Pterocarpus, and Plectronia. A regional peculiarity of plants here is that most have broad smooth leaves.

Boys pretty well recovered from their Samarai colds. They are again singing in their camp.

Tuesday, September 29, 1953: Mountains clear in early morning and day not quite so windy. No rain.

Botanized along the old military road as far as Jowett's coconut plantation on Nuatutu Point. Scraps of rain forest here and there. Scattered gardens and two garden houses along the shore. Relics of strand forest of Hibiscus tiliaceus, Terminalia catappa. Shore itself mostly stony; carrying a thin line of Scaevola, Bauhinia, etc. and on sandy beaches Ipomoea pes-caprae. Imperata dominant grass on coastal flats of black soil.

In an old military parking area at the site of the former wharf are fuselages of four planes, and various road-making machinery, bits of trucks, etc. One yellow-painted power grader carries the name "Lockhart Shire Council" across the front of the cab. Nothing of any value. MacArthur's forces were advancing when Goodenough was occupied by a reputed 30,000 men, and practically all materiel was moved on to Hollandia or points beyond.

Ken and Bob Greeney returned from the mountains during the morning. Bob walked around the northern part of the island and attempted to climb the range from Kuduia. Locals denied knowledge of a trail going up from there, so went further to the south and struck a trail from Lauwela to Eweli. Had hard going with rain and overloaded carriers (boxes on poles). Camped one night at 1500-2000 ft. and another at 4500 ft. and reached Wakonai on the 28th.

Ken left Wakonai on the 25th (150 m.), camped that night at a waterfall on the Walawala River (800 m.), and next day reached his topmost point, 1570 m. by doubtful aneroid reading. First day mostly grassy slopes with forested gullies; travel not too bad; populated valley slopes. Second day traveled up the crest of a long grassy spur for 1 hr. 40 min., then through primary forest 30 minutes to his camp site; first part very steep, rising about 600 m. in about an hour. His top camp in forest badly entangled with climbing bamboo. His guides said he was near the top of the range. Stayed there a day, clearing a camp site and rigging a tent and a fly. No local exploration done. Much rain and wind.

Travel time with a carrier train would be: first day Wakonai to the waterfall 3-3½ hours; 2nd day, waterfall to Top Camp about 3 hours. Considers loads should not be more than 30 lbs. He saw no place suitable for a middle level camp unless it is the waterfall area. No information on the scope offered by the Top Camp site. We will just have to go up and see. I don't like the report on the climbing bamboo. If it is all through the upper forests it will greatly restrict our activities. Bob noticed little bamboo on his route, so Ken's occurrence may be local.

We are afflicted with a sudden outburst of petty thieving. I should say, I. After early morning tea I looked for my tobacco and found it gone. Then my toilet soap. My pocket knife. And this evening I found myself lacking two pairs of shorts. No clues, but circumstances seemed to point to the local boy who empties our small house can. The can had been emptied last night or this morning early. The suspect was a patient in the native hospital nereby. A search by Bob and one of his police failed to turn up

any evidence at the hospital. The suspect swore that he had not emptied the can, anyhow. Then our cooks were questioned. Both lied, but it is doubtful if guilt lies in their direction. They are unlikely to steal until later on the trip, and besides, both are Goodenough Islanders and therefore could expect to be under suspicion if anything went missing.

Wednesday, September 30, 1953: Weather much as yesterday. Distant rumbling of thunder at dawn.

Morning spent on plans and stores lists for the mountains. We are reckoning on three weeks work at Ken's top camp, and two weeks at a middle level camp, if a suitable site can be found. Prepared in afternoon a fair collection of plants brought in by my boys.

My stolen pocket knife has reappeared. The cook brought it from the boy house. It was in possession of Liklik, a mammal hand, who said it was given him by my boy Bobi who found it lying under the house. Bobi, interrogated, declared that he did not recognize the knife as my property, which was a whopping lie. All boys mustered and questioned in Motu and Dobuan by Ken. No clues on other lost property. One suggested that their belongings be searched. All agreed. Results nil, as expected. I did not feel very good about the search, especially when I saw how slender the boy's possessions were. A mat each, a blanket and woollen shirt which we issued them (extra shirts and blankets in storage, for safety until we leave for the mountains), a spare lava lava or two, cheap trade shorts and singlets bought in Samarai recently, a few used flashlight batteries, and sundry odds and ends. The Kalo boys probably sent other possessions home with kinsfolk who visited them last weekend, and the Morimas with their fellows who were paid off in Samarai and returned to their homes.

Thursday, October 1, 1953: A shower at daylight, and rain squally around 2 P.M. Wind mostly from SW.

Botanized in the "Big Scrub" about a mile to the west of camp. Eighteen species gathered, but nothing of special interest. Collecting is poor in the locality.

Bob Greeney left for his station at Esa'ala on the "Stockton," a launch belonging to the Methodist Mission.

Friday, October 2, 1953: The stillest day we have had here. Occasional gusts; sultry; sea calm; sharp shower about 2 P.M.; heavy thunder in direction of the high mountains on Fergusson Id.

Without wind to keep them in shelter the mosquitoes are bad. All anopheles.

Working on collections and packing for the mountains.

Saturday, October 3, 1953: A change in weather. Mountains very clear, close and dark in early morning; soon clouding over at upper levels. Light showers here in afternoon. Little wind.

Packing for the mountain is almost complete. We have called for 57 carriers to move us to Wakonai on Monday. Niko and Liklik left this morning with two carriers to finish clearing ground and rigging tent and fly poles at the top camp on the mountain.

Sunday, October 4, 1953: Partly cloudy; light SE wind; calm sea; rather hot and muggy.

Allan Ramsden called in on his hoat "Kekeri" early in the morning and left before noon. He has put ahore 6 recruiting boys on this part of the island. This may interfere with our arrangements for carriers, though I hardly think so. There is a big population in the area. Ramsden seems to be the most successful recruiter on Goodenough. The price paid by employees is £10 per head for one-year boys.

Monday, October 5, 1953: Traveled to Wakonai village (130 m.) on first stage to the mountains with 53 Kalauna and Beli Beli carriers. Van and I left at 6:35, ahead of most of the carriers, and arrived 9:45. Very hot walk. Pelting sun. No breeze. The only shade in rain forest gallery woods on first half of trail. Van ill with a stomach upset which began yesterday (Saturday night). Near collapse at times.

Route was along the old military road to the south edge of Vivigano airfield, then parallel with right bank of Uiofea stream up to Wakonai. All road bridges have disappeared. Road surface guttered in places but mostly in good shape and has been used this year by jeeps hauling scrap metal for shipment from Bolu Bolu. Grass over head high on most of the road, but a native foot path follows it.

The Kalauna village constable walking with us pointed out sites of former wartime installations; movie theater in forest on Foufo Creek; U.S. headquarters ("where big American boss lived") and bakery on Arikabu River; Angau labor camp on Bilolu Creek, etc. Vivigani airfield now a desolate stretch of grass traversed by the bitumen surfaced main strip and flanked by earthwork revelments on the coast side. A few burned-out motor vehicles the only abandoned equipment to be seen.

View of airfield and distant Amphlett Islands from Wakonai resthouse. Resthouse thatched with grass tied in small bundles as is the village of 25-30 houses. Ground in village very rocky; tall old coconut trees. Platforms of loose rock in village each with one or two slabs of rock standing on a slant. First noticed these platforms and monoliths at Beli Beli. No carving on them.

Tuesday, October 6, 1953: From Wakonai over the crest of a very steep spur (500 m.) into the valley of the Galuwati River, thence along the southern slopes of the valley to Galuwati Village (640 m.), across the Waoiioya tributary of the river, up a steep grassy spur to Iaawaka hamlet, and along a precipitous slope to camp at a water-

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[illegible]

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[illegible]

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fall on Wala Wala Creek. This creek junctions with the Waoloya just below camp. Camp at 800-830 m.; two flys for natives, a tent for us; ground limited.

Hard travel most of the way. Ground rocky; steep climbs; steep and in places dangerous side slopes; poor footing on a very narrow track often almost hidden in waist-high grass. Reached Garuwata Village 9:45, left at 11:00 after a meal of rice for the carriers and a snack for ourselves. Reached the waterfall camp at 11:50. Van fairly well recovered from his illness, but weak, and miscles cramped. Cramps in my legs too on last part of track.

Carriers traveled well, the men carrying 8 boxes as double loads when we started, but after a time several of the poles were thrown away and the boxes manhandled as single loads with the men alternating. Women carried drums of rice, etc. on their heads. On one precipitous side slope a woman slipped and her drum of kerosene came to rest badly battered and leaking a couple of hundred feet below.

South slopes of Garuwata Valley mostly grassy with strips of brushy second growth rain forest in dry gullies. The even more precipitous north slopes mostly covered with primary forest. Waterfall Camp in second growths; taro gardens nearby. Tall treeferns (= species on lower slopes of Mt. Dayman ?) conspicuous in the young forest.

Some fairly level grassy benches and hollows close above Garuwata Village. Village of perhaps 20 small houses shaded by tall coconut and betel-nut palms and old mango trees. Very rocky ground. Stone platforms and monoliths as at Wakonai and Beli Beli.

Crops largely taro; some yams. Only one pig seen in village - a fine big fat well-bred Berkshire , no doubt stolen from Nuatutu Plantation on the coast. The people of this side of Goodenough lost all their pigs when evacuated during the war and are without money to buy new stock.

Even at Galuwati there are houses of rusty corrugated iron salvaged from old military camps. Saw used as food bowls hubcaps from an airplane and an automobile. Headmen accompanying us have walking sticks made of aluminum tubing. Insulated electric wire is used for tying house timbers.

<u>Wednesday, October 7, 1953</u>: To Camp on Goodenough established at 1570-1590 m. by aneroid, on the eastern slopes of the central range and not far from the summit. According to the 1-mile map the summit above us is 5900 ft. (about 1800 m.). The leading carriers did the climb in less than 3 hours. Leaving the Waterfall Camp at 6:20, and examining the slopes for a middle level camp site and taking bearings on known points, I arrived at 10:15.

Slopes between the Waterfall Camp and 950 m. and 1150 and 1300 m. very steep indeed - more precipitous than any trail on Dayman. Scrambling up, step by step, with loads balanced on heads, the women would tread on their knee length grass skirts and the trail was marked with bits of skirt material of various colors.

Ascent through second growths to 1000 m. where there was a patch of oak forest, then second growths to about 1100 m. Tall oak forest and a fairly level spur crest at 1150 m., and a place where traveling natives rested. Site promising for a short term collecting camp, but no water could be found. Oak forest up to 1380 m., where the track came out on the crest of an open grassy spur. Brief view of the Bolu Bolu coast from here, then clouds closed in. Got bearings on the central peaks. Followed the grass spur to its end at ;550 m.; a very dee saddle (1400 m.) about half way. Entered forest again 10 minutes from camp.

Camp is in rather low forest of oaks or Castanopsis about 25 m. high. Canopy incomplete. Much scrambling banboo, and numerous Pandanus trees. Locality looks promising. We are on a small headwater feeder of the Iofea or Uiofea stream on which Wakonai is situated. To the north the Wetoweto Bwoia Bwoilala tributary of the Garuwater flows in a deep ravine closely parallel with our camp ridge.

Now we have slugged up to this height by a difficult roundabout route, the natives say there is a much better and shorter track from Wakonai.

Heavy rain began about 12:30 and continued on and off until late afternoon; mist close to ground in forest. Night starry, but drips from trees made jacklight hunting almost impossible.

Today we have been let down by an item of expedition equipment which I have sworn by for 20 years. A new Egyptian cotton fly, one of four bought at high price from David Abercrombie for this trip, leaks like a sieve. It has been used at all our mountain camps and is somewhat moldy, but never before in my experience has mold caused these tents to leak.

Thursday, October 8, 1953: Sharp shower at 4:30 A.M. and light rain between 2 and 3 P.M. Clear tonight. Temperature at 6 A.M. a comfortable 64 deg. F.

Nothing in the few traps put out last night. The Wakonai V.C., Padi, who has a hunting dog and is staying with us for a few days, set out early this morning in search of wallaby and cuscus and returned at 2:30 with 2 Dobsonia bats caught in a hole in the ground. The Dobsonia of this island is intermediate in size between the two mainland species and may be new.

Ken with two boys cut track toward the top of the range, reached an altitude of 1700 m., and returned with very indefinite results. Thought he had looked down on the west coast, but a compass bearing he took showed that his view was of the Vivigani area on the east coast.

Botanized close to camp and down the north slopes for very encouraging results. The very prevalent climbing bamboo is not thick enough to prevent fairly free travel in the forest. An oak dominates the forest of the ridge crest; the firest of the ravine is a mixture of other species in which a small-leaved Croton ? is important. Many plant species appear identital with those of Mt. Dayman, but many are unfamiliar to me.

Friday, October 9, 1953: Wet weather in bamboo-entangled mossy forest! Heavy rain began at 12:30 last night and kept on until near daylight. Mist and showers 10:30 to mid-afternoon. Tonight clear, and colder. Six P.M. temperature 58 F.

Collected down to the upper end of the long grass and spur at 1550 m. until driven back by rain. Grasses there give place to dense 2-3 ft. high tangles of Gleichenia and bracken in which a tall Cladium-like sedge is plentiful, also a Scaevola and a shrubby Haloragis. The habitat undoubtedly secondary.

Van's traps last night yielded one very drenched small rat. It was new to the collection and at least we know that rats are here. Two Dobsonia fruit bats brought in by the Wakonai constable yesterday. Van now has 15 mammal species for the island. So far as our records go, only 6 species were previously known and of these we have but three. In a couple of weeks Van has tripled the known mammal fauna of the island.

Ken opened a trail down to the creek with the long name and returned with about 30 frogs ~~xxxxx~~ of 3 species.

Padi and a small boy who has been with us returned to Wakonai today. Perhaps the weather was too much for Padi, although he is an old hand in the bush. We loaned him two blankets. Padi has Irish features. Worked for years for a government officer ("George Ireland"), and for gold prospectors, including Jack Hides. He has been careful to explain that he has not "worked" for whites, but has signed on as cook or shoot-boy.

Saturday, October 10, 1953: Temperature at 6 A.M. 56 F. Gusty wind late last night. Fine clear morning; cloud off and on from noon to dusk. Clear tonight.

With Ken and my two boys I followed the track he cut a couple of days ago and found it stopped well short of the crest of the range at about 1670 m. Most of it on slopes badly tangled with scrambling bamboo and Gleichenia fern, on which one walked without putting a foot on ground. Today we cut to the crest of the spur in low, bamboo-grown forest, and followed it to the top of the range. Actual divide 1715 m. by aneroid; highest point on spur 1725 m. On the 1-mile map, the range top eminence we were on is enclosed in the 5900 ft. form line. If that altitude is correct, my aneroid registered 240 ft. (or more), too low. Had excellent views of four of the central peaks, and for a few minutes the NW

peak, which I had not seen before, peeped out artially from enveloping cumulus cloud coming up from the NW. From the highest parts of the spur we saw Vivigani air strip and Malauna anchorage on the east coast; the range crest tailing off toward the south end of the island; perhaps Mud Bay; heights on Fergusson Island; and mountains on the mainland. Sky very hazy and distant views dim. Could not see the west coast.

Collected some good plants on the way back, the most exciting being an antartic beech (Nothofagus). Only three trees of this seen in the low forest of the highest point of the spur; the trees not in fruit and only young female flowers found. On the central peaks are dark forests of some coniferous tree, probably Podocarpus of the Compacta group. Scattered trees of this on the range crest this side of the peaks, but none where we were. The highest (8350 ft.) peak - "Timbertop" - is partly dark conifer-forested, partly grassland. No forest on the three peaks to the east of it; some on or next the top of the NW peak.

A very satisfying day.

Sunday, October 11, 1953: Clear crisp morning; minimum 10 C. (= 50 F.). Cloudy after 10 A.M.; light showers at noon and between 5 and 5:30 P.M. Clear tonight.

Botanized in the bed of the creek with the long name. Very moist, mossy conditions. Actual stream up to about 10 ft. wide; bottom rocky; gradient moderate, flora not as rich as I hoped. General similarity to the Maneau flora of like altitude; some plants seemingly identical; most specifically different.

For 130 traps out last night Van had nothing. No mammals have been got by jacking - in 3 nights only one shot fired, at a small bat. Ken is beginning to show real interest in the collection of frogs and insects. Has about a dozen species of frogs so far. Following ideas in Alice Grey's hints to collectors of insects, he has made a sugar trap, and on sheep country experience in Queensland he has devised a trap for the blowflies which have laid eggs on his blankets.

Van has been collecting birds for the past two days and has specimens of two ferns (Pachycephala and Myzomela) previously known from single collections. Today a hunting man and his dog arrived from Garuwata. He carried for us on Wednesday and claims to have caught 5 wallabies on his way home. Asked if he would like someone to go with him tomorrow, he declined, unless he killed too many wallabies and their weight was too much for him to carry in.

All told, we had fully a dozen visitors this afternoon, men and women from Garuwata, bring yams, taro, sweet potatoes, pumpkins, sugar cane and bananas to trade for salt. One wanted newspaper, another flashlight batteries. They climbed 2500 ft. with their produce.

Monday, October 12, 1953: Another crisp morning - 12 C. Clear sky until 10 A.M.; light rain 12-2. Glimpses of a bright starry sky through the treetops tonight.

Collected along a newly cut trail running about 1/4 mile SE. Forest dominated by oaks; the large stately Pandanus of the area very plentiful in gullies; not much scrambling bamboo. Flora not so rich as at this altitude on Maneau, but by hunting around I am averaging over 30 numbers a day.

Nothing in traps and Van started the day by shooting birds. Soon he has six specimens of a Pogonomys, cut from a hollow tree by Ken. At noon the native hunter came in with two black wallabies and a cuscus (Phalanger). The rat and the cuscus new to the collection. All three mammals are thick-set and have long furry hair. The cuscus lives in holes under the bases of trees and feeds on pandanus fruits at this time of year. The black wallaby has white under pellage and a stiff stubby tail.

More people from Garuwata bring fresh food. Also the councillor from one of the Wakonai group of villages. This man lives at about 1500 ft. in the mountains. Appeared in the rain alone, dressed in a ereneal band and an Australian soldier's tin hat, the latter filled with a bit of electric wiring for a chin strap. He had cut track from near his village to join our trail at 1380 m. From the beginning - on our way up here, he has told us that there is a good spot for our collecting down there and a shorter and easier route to the lowlands than the one by which we came. I feel the man knows what he is talking about; Ken does not. He will go with the councillor tomorrow to examine the route.

Tuesday, October 13, 1953: Max 18, Min. 12 C. Clear morning clouding over about 10 o'clock; clearing mid-afternoon. No rain. Clear tonight.

Saw Ken off in his search for a #2 camp site by going down to the bottom end of the grass spur at 1380 m. (corrected aneroid altitude 1400 m.). As in all new ventures he was most pessimistic and unsure of himself and the world at large.

Collected in the primary forest of the ridge crest immediately below the grass and found that the principal tree which I have been calling an oak, is Castanopsis - very like the species at #3 Camp on Mt. Dayman. An oak also collected.

From the lower end of the grass I got bearings on Bolu Bolu (96°), south end of Vivigani airstrip 48° magnetic.

Van's hunter brought in a big black male forest wallaby weighing ______ lbs., and a bandicoot (Echymipera). Another blank from traps. A small blackish bat shot at in camp this evening.

Someone at the Museum (Gilliard or Mayr) told me that birds of paradise are unknown from this island. Today I saw a black bird the size of a small crow, which looked like a female paradise bird. At Bolu Bolu I saw what I took to be a Manucodia. The Fergusson Islanders know their P. Decora as Siai. Our native hunter says there are no Siai here, but there is a small black bird with a long tail, which dances in tree-tops (Astrepia ?).

Wednesday, October 14, 1953: Max. 25 deg. Min. 13.5 C. (Maximum reading doubtful). High overcast in early morning, followed by a day mostly clear. No mist or rain.

Spent day in camp preparing accumulated plants and odd jobs which I finished about 4 o'clock. Then collected my fifth Cyathea for the locality. Tree-ferns are unusually abundant in these forests. Other ferns not as plentiful or in the variety that was on Maneau.

Another black-headed bandicoot brought in by the native hunter; a rat in traps; two black Miniopteris shot by Van. The local melanism in mammals is a remarkable thing. Authors have called the people of the island black or blackish, but to this I can not agree. Individuals may be darker than the average native of eastern Papua, but they are not a blackish people.

Thursday, October 15, 1953: Max. ___ Min. 13.5 C. Found yesterday that the afternoon sun had been striking the thermometers. Mist drifting through the forest at daylight and moisture dripping from trees and tapping on my tent. Rain most of the day and on into the night.

Did some collecting to the SE and got wet in the process.

Ken returned, reporting a good camp site at 600-800 m. As usual when he carries the aneroid something goes wrong with it. The report is of good forest - apparently rain forest - at an altitude suitable for us. Have decided to move down there on the 24th. A longer stay here would not be justified for mammals.

Friday, October 16, 1953: Max. 18, Min 13 C. Stars blazing through the treetops at 4:30 A.M.; mist and drizzle at dawn; spasmodic sunshine to 10:00; rain most of the day to 6 P.M.; moon showing through high clouds now (8:30). Saturated with the rain of the last two days, the brown peaty ground in camp is soggy and slushy. There is a damp chill in the air, except in my tent, which is our eating as well as my work place, and repository for Van's mammal trays, and where a lamp has been burning through the daylight hours of the past two days.

Collected a short distance up to trail toward the crest of the range, mostly on bamboo-entangled slopes with bits of forest on ridge-tops. Gathered my 7th Cyathea and 5th Vaccinium for the locality. Away from the broad ridge upon which camp is situated, and on which the chief dominant is an oak or Castanopsis, the forests of both ravines and ridge crests is more mixed and there are no trees, apparently, which could be called major dominants. I still have to gain an understanding of these forests.

Ken left for Bolu Bolu at 7 A.M., via Garuwata to bring supplies for #2 Camp.

Have decided to close this present camp Saturday, 24th, and move down to #2, leave there on the 9th November, spend a day or two at Wakonai - chiefly for reported bat caves - and leave Goodenough for Normanby Island during the weekend of November 14. Have so advised Ramsden and Buntings - the former having offered to move us to Normanby, the latter to arrange for boat transport if Ramsden should be unavailable.

Saturday, October 17, 1953: Max. 18.5, Min 14 C. Misty, threatening dawn, heavy thunder to NE (thunder in east last evening); alternating cloud and sun during day; no rain.

Botanized downstream on the creek with the long name. For a wet ravine the flora is poor. Notable accessions: a red-flowered epiphytic Agapetes and futile material of the characteristic small-leaved bamboo of the forest.

Nothing in traps for the second night in succession. The mammal situation somewhat relieved by Garuwata men who arrived this afternoon with a young mountain cuscus and a Pogonomys. An adult cuscus brought in by our native hunter.

With the locals came a drum of peas which we left at Garuwata on the way up, a bit of garden truck; a betel-nut to sell to our boys for the weekly issue of tobacco which was handed out today.

A note from Ken by the pea carrier. He was to have slept at Garuwata last and ~~arranges~~ arranged fot the capture of small bats from a rock cave at our Waterfall Camp. Instead, he rushed through to Wakonai.

Sunday, October 18, 1953: Max 20, Min. 15 C. Again misty at dawn; good sunshine until late afternoon; mist again tonight.

Had, with good visibility in the tree-tops, a good morning in the field on the spur above camp. Collected the first Rhododendron for the island, a small-leaved high epiphyte with pretty bell-shaped pink flowers. Have seen sterile plants of another species with big leaves. Many forest trees about to come into flower.

A mail runner arrived about 3:30 with letters from U.S. and Samarai forwarded from Bolu Bolu by Ken at 3 P.M. yesterday. An urgent letter from Dusty miller dated Sept. 26, 1953, saying Geoff had another stroke a few days after we left him in Samarai and that his return home would have to be delayed several weeks. By this time he is perhaps on the way or already there by air.

Wrote Miriam, Geoff and Dick about this misfortune. The stroke was serious this time. His facial muscles are affected, his mouth sags and he has difficulty in speaking.

Monday, October 19, 1953: Max. 20.5, Min. 15.5 C. Condensed mist dripping on the tent kept waking me through last night. Tonight it is raining. Has been since about 1 P.M. Mist in tree-tops and closer to the ground most of day. Probably dirty SE weather on the coast. Strong gusts here last night. Thunder to the N. this afternoon.

Got the mail runner away before 7 A.M. Jarrett (Nuatuta Planation owner on a visit to his property near Bolu Holu), is due to sail for Samarai tomorrow. With a change of runners at Wakonai, or even if the one man has to go right through, the letters should be at Bolu Bolu this evening.

The weather kept me close to camp for field work and only 13 numbers collected, including the 6th Vaccinium (in a broad sense) for the locality.

Van had only one rat from all his traps. Yesterday being Sunday, his native hunter after probably making use of all the preseribed pagan charms during the week, did not go out. Today, reinforced by a second dog and a small boy, he returned in the rain with 2 wallabies, 1 cuscus, 2 bandicoots and 2 Dobsonia. Some of the specimens badly torn by the dogs not being used to hunting together, and they fought over the prey.

Tuesday, October 20, 1953: Max. 19, Min. 15 C. Mist down to the ground in forest until about 7 A.M.; overcast thereafter; no rain. Some stars peeping out tonight.

Botanized down the spur to the edge of the deep saddle on the grassland at about 1500 m. Had glimpses of the main peaks, clear and blue above a broken cloudfield; and of the coast, looking blue and wet.

Nothing of special interest on the grass spur, or in strips of

forest in the heads of gullies on the steep slopes. At camp I collected the one palm species of the area apart from a *Calamus* which is sterile. This palm is a big species with striking purple inflorescence and red fruits. It could be a new genus.

The hunter and his dogs not so successful today. Only one cuscus and 2 Dobsonias. On check and recheck of what the hunter says of its habits, it appears that the cuscus lives in the ground in holes under the mossy roots of trees. The *Dobsonia* lives in hollow tree-trunks and in holes under trees of the kind inhabited by the cuscus during its resting hours.

The hunter, Vilaubala, is a broad-faced cheerful little fellow. In temperatures never above the 60's he wears only a pereneal band. Today after his hunt I found him bathing in the brook (temperature ____), then applying coconut scrapings to oil his skin and hair. He needs one wallaby of four he contracted to get for a 5-gal. drum of salt. In addition he has about £3 coming to him in cash for other mammals. He is probably feeling on top of the world.

Wednesday, October 21, 1953: Max. ___, min. 14 C. First clear dawn for some days. Waking about 1 A.M. I saw a glow on my tent and thought Van had gone to sleep and left his lamp burning. It was the moon, 2 days off full, and almost forgotten about. General high overcast today; drift from SW. Light rain about 1 P.M. and 6:30 P.M. Forest drippy again tonight.

Descended to the bed of the creek with the long name, then followed it up perhaps 1/4 mile to a waterfall dropping 70-80 ft. in a lower step and cascading probably 20-30 visable feet in an upper step. Set my camera for shots but could not get sunshine.

From the waterfall I cut track back along the slopes directly to camp. Slopes generally not overly steep, but for the most part a tangle of small-leaved bamboo with tree ferns and scattering of flowering trees rising out of it. On a small bench at about camp level were two splendid beech trees and a number of smaller ones. The largest beech - a gnarly old tree fully 6 ft. in diameter but not more than 80 ft. high.

The extensive bamboo and treefern tangles on the slopes hereabouts must, I think, have become established after destruction of ofiginal forest by fire. The forest is very heavily mossed. In an abnormally dry year the forest would carry fire. Perhaps a fairly recent dry cycle was accountable for the destruction of so much of the forest. Have not seen beeches below 1100 m.

The hunter contributed today a cuscus and 2 or 3 *Dobsonia*. His small-boy assistant spent the day on a trip down to Garuwata and back bringing betel-nut. The boys very chattery this evening and singing hymns and "Clementine", in their own language.

Thursday, October 22, 1953: Max. 20.5, Min. 15 C. High overcast at dawn; dull and misty most of day, but no rain; strong gusts of wind from SW late afternoon.

My last field day in this locality was spent within 1/4 mile

of camp E & N, filling known gaps in the plant collection and happening across a few species previously unseen. The most important "known" was my third *Pandanus*. By far the commonest and most striking in the area, but only today found with a fruit head which had not ripened and fallen to pieces.

An observation forgotten yesterday is that the dominant tree of the immediate camp locality is a *Castanopsis*, not an oak.

Van's hunter today completed his contract to provide 4 wallabies for a drum of salt. In my ramblings this morning I thought twice that I could smell a cuscus. The strong scent was unmistakable. Eventually, when my boys could detect nothing, it became apparent that the smell came from the boys themselves. They had eaten cuscus meat last night! If there is a stronger meat than mutton it must be cuscus.

There are more similarities than the opposite between this island and the New Guinea mainland. The differences are largely in things that are lacking. One of the missing features is the "six o'clock cricket." A noisy cicada sounds off at about 5:20 in the morning. There is no cicada noise in the evening.

Friday, October 23, 1953: Max. 19.5, Min. 14.5 C. Dull and misty; strong gusts of wind from SW, then NE. No rain.

Carriers from the Wakonai group of villages arrived about 1:30 to transport us to #2 Camp tomorrow. On the way up they took supplies to #2 where Ken awaits us.

A radiogram from Buntings advising that they will arrange for a boat to pick us up at Bolu Bolu November 14. No mention of Geoff, so presumably there is at least no further bad news.

Plant collections for this camp were 430 numbers, including 132 bryophytes; 1408 sheets of specimens. Further work would not be warranted. Most plants seen were found in flower or fruit; a number of other species, especially trees, are in young leaf or with flower buds which should open in about a month.

The mammal total is small - only 54 specimens of 8 species (wallaby, *Phalanger*, bandicoot, *Pogonomys*, *Rattus*, *Hydromys*, *Dobsonia*, *Miniopteris*. This time the 11th hour prize was Hydromys, trapped in the creek last night.

We have a good collection of frogs; only 2 lizards (skinks from tree-tops).

Saturday, October 24, 1953: Broke camp and left at 7 O'clock for #2 Camp on the lower slopes; 42 carriers including 11 women; 2 village policemen and 2 councillors in attendance.

Arrived at #2 Camp 11 o'clock having stayed behind the transport line and collected on the way down. I made the altitude 910 m. by aneroid; Ken previously made readings of 860 and 600 m.!

Travel was by the track we followed up from Garuwata on Oct. 7, as far as the lower (1380-1400 m.) end of the grass spur, i.e., the divide between the Garuwata and Utamodi valleys. The same divide followed down to about 1200 m.; after that a subsidiary spur to within a few hundred feet of the moisy Utamodi, where the track swung left on the steep slope (960m.) and in about 10-15 minutes dropped into a small basin in which camp is situated.

Instead of following the crest of the main ridge down to the 1200 m. level, the track often as not was on the very steep side of the ridge. Fortunately, there were plenty of trees to hold onto, for foothold was bad in places and there were loose rocks. Track improved on the less steep slopes at lower levels.

Down to about 1100 m. travel was through ~~acorns on the ground~~ *Castanopsis* forest of rather low trees. Found acorns on the ground at 1030 m., where the forest became taller and moister. There are 2 spp. of oaks about camp, which appears to be in the mid-mountain-rain forest transition zone.

Camp is well situated; good ground; splendid water supply from a spring.

Sunday, October 25, 1953: High thin overcast until mid-afternoon; gusty SE wind; no rain or mist. We are below the cloud belt.

Botanized in an exploratory way down the small camp stream a short 1/4 mile,then along the crest of a ridge which separates the camp stream from the main valley of the Utamodi. Old garden lands occupied by forest second growths begin on the ridge about 5 minutes from camp; in 10 minutes walk one comes to a spur-crest strip of recently burned grass dominated by *Themeda*. From the grassy spur there is a fine open view of Vivigani airstrip, the lower Garuwata River and the coast beyond.

Van is getting a good start with mammals; On arrival yesterday there were awaiting him the skin and skull of a lowland wallaby Dorcopsulus shot by Ken below Wakonai, and a low mountain *Pogonomys* cut from a hollow tree by camp-clearing natives. Last night another *Pogonomys* was shot, and today, five more taken from a hollow tree. (Two distinct species of *Pogonomys* collected so far on the mountain, possibly a third).

Monday, October 26, 1953: Another rainless day, sunnier than yesterday. The thin coating of mosses on the trees is dry; the rich, friable brown soil quite moist in the forest.

Morning spent on the Utamodi. Bed of stream only 100 m. below camp, but the slope of the ravine very steep, so precipitous that in places a plentiful undergrowth of *Elatostema*, etc. is not sufficient to stabilize the soil and rubbly rock and there are numerous little slides. The stream very rocky where I saw it. The flora poor for a moist ravine at nearly 3000 ft. An extraordinary moss hangs from the trees in tresses 2-3 feet long.

Tuesday, October 27, 1953: It looked like being a good day. Ken went down with malaria in mid-morning, as he does often because he will not look 10 days ahead and take preventive drugs of which we have plenty. Van had nothing from traps, but a nice family series of 5 Pogonomys taken from a hollow tree, a Hipposideros he shot last night and a Dobsonia brought in by a native. There was a good catch of Odonata and butterflies. I captured the third snake for the locality. I also collected good material of an oak common here (#25,000) and of a big Proteaceous tree which resembles Helicia but I think is another genus.

Then in the middle of the afternoon Jack, the Wakonai councillor, arrived with a mail bag. The biggest mail we have had on the trip. Some of it had been sent from Samarai weeks ago on the mission vessel "Koonwarra" which broke down. About 30 letters for me, including five from Marie. Also letters from Dusty and Ailsa about Geoff. He is in bad shape. Completely paralized on the right side; unable to say anything but the easiest words such as "Yes" and "No". We have to get him home. Therefore I have decided to close the expedition.

Sending Ken to the coast in the morning with cables for Miriam and Dick, and detailed instructions to communicate to Dusty re arrangements for getting Geoff back to the U.S. as a stretcher case, with Van in attendance. I will stay to wind up expedition affairs and see to the packing of collections and gear.

Ken will go to Mapamoiwa, on Fergusson Id., the nearest radio station, in a small launch belonging to Jarrett of Nuatutu who has put it at our disposal in case of an emergency.

Van and I will close this camp on the 31st and go down to Wakonai. We will there be in a position to act quickly upon alternative plans: (1) If Geoff is well enough to travel now, I am asking for a boat to meet us at Bolu Bolu Nov. 3 to take us to Samarai; (2) If Geoff should be able to travel soon, we will embark for Samarai Nov. 3 and put in any waiting time on the mainland near Samarai; (3) If travel is inadvisable for Geoff for some considerable time, we will carry on as per previous plan work on Normanby Island until Geoff has medical OK for travel.

Wednesday, October 28, 1953: Ken left for the coast and Mapamoiwa about 7:15 A.M. He is to arrange for a preliminary carry of its loads from here to Wakonai on the 29th. Forty carriers are to move Van and I to Wakonai on the 31st. We will plan to move from Wakonai to Bolu Bolu Nov. 2, if Geoff is fit to go home.

I could not wish for better general botanizing than I had this morning down the stream and ridge from camp. Many trees are in flower and a few with both flowers and fruits. Van had his first catch from traps - a soft-furred small rat with Melomys mammary formula. Melomys is not known from the D'Entrecasteaux Group of islands.

Heavy mist on the heights above us. More or less overcast here, but still no rain.

Thursday, October 28, 1953: Max 24, Min. 18 C. Still no rain. Considerable cloud this P.M. The usual starry night.

Had only fair results from a morning up to trail. In afternoon sent boys down to the big creek by a track cut by Van a couple of days ago.

While I was in the field this morning the Wakonai V.C. arrived with 18 carriers. Van who handled this transport and made a good job of it, had only 16 loads. Those carrying loads were paid 5 sticks of tobacco, the surplus people had a present of 1 stick each.

Three youngsters from Garuwata today with 3 Rhinolophus caught in a rock cave at our waterfall camp.

Yesterday the Garuwata councillor and several villagers (including one deaf and dumb boy) came across the mountain with food which we did not want. Liberal presents of newspaper given them. Saying goodbye, the councillor, who knows a fair amount of English said, "I want to cry". He meant it too. Heavily recruited as they are as labor, these Goodenough people are unspoiled, trusting and very likeable ~~peopl~~ folk.

Friday, October 30, 1953: Max. 26, Min. 17 C. Sunny A.M.; overcast P.M., mist drifting over the 4000 ft. ridge to the east of us; a few spots of rain in camp.

Preparing to leave this lower mountain camp; packing pickling specimens which can't be dried now, developing photos, etc.

A messenger arrived in mid-afternoon bring a letter written by Ken at Bolu Bolu this morning. Geoff is improving. The doctor permits him to travel home by air. Buntings have bookings to New York for him and Van, for departure from Samarai November 12. It is a great relief to know Geoff continues to mend. Today (or yesterday) the folks at home will have had my radios advising the situation. Van will have ample time to pack his collections before leaving Samarai.

This camp has been very productive for plants. In six days I collected 190 numbers, 715 herbarium sheets. Another week could have been spent here profitably. Weather conditions - no rain, pleasant temperatures - have been perfect for field work. This appears to be the beginning of a fairly general flowering season for plants. The locals say that when the yams grow-they have recently been planted - the oaks and Castanopsis will break into flower; they have young buds now. A number of ferns are sterile now and could not be collected. Camp is in transition oak-rain forest; rain forest occupies the ravine of the Utamodi stream, 100 m. below us.

The locality has been very meager in results for Van. Only 8

species acquired: Pogonomys (2), Melomys, Phalanger, lowland wallaby, Dobsonia, Hipposideros, Rhinolophus. Only 1 mammal caught in ca. 900 traps nights. Total for camp: _______ specimens.

Snakes of 203 (?) species, some small lizards and many frogs collected. Fair lot of insects, including several Odonata.

Water temperature in stream 70 deg. F.

Saturday, October 31, 1953: Had more than 38 carriers called for the move down to Wakonai. ___ from Wakonai, Afufuia, and 7 from Garuwata. Had to wait for their arrival which allowed a thorough drying of tents and flys, and got away at 8:20. I stayed behind the transport to collect and arrived at Wakonai 12:00.

22 Beli Beli carriers sent by Ken to make a first evucation transport to Bolu Bolu had been started back by Van before my arrival.

From an isolated grass area on a spur 10 minutes from camp (890 m.) we made a very steep descent through old secondary rain forest to the Utamodi at 490 m. Trail very rocky. The ravine little better than a gorge. Trail crossed many sloping smooth rocks, giving safe footing for bare feet, but a precarious grip for nailed boots. Sidled along the far slope of the Utamodi ravine through newer second growths and past an old village site (betel-nuts and coconuts) and came to 3 tin huts in the narrow crest of a grass spur at 430 m. Close below this in a grove of old coconuts, was the garden hamlet of Councillor "Jack". An aluminum bucket seat from a plane set up in the shade by the tin huts. From Jack's place a good track down the grass spur to Wakonai (160 m. by today's reading).

Collected on the way 22 numbers of plants, bringing my total just over 3500.

During afternoon learned some of the Wakonai history. Originally these people lived in the mountains (old Wakonai was at 500 m. They were moved down to the foothills by government order, executed "Mr. Beeby". In the old days the people from Wakonai north to Wataluma on the side of the island were allied with the Moratau people of the west slopes against the south end of the island. Constant warfare cannabilism and killing by sorcery. Their stone adzes came from Iasiiasi on Cape Vogel, in trade for pigs and garden food to Moratau, thence over the top of the island to Wakonai. Our top camp at 1600 m. was on this old mountain trail. (Van has bought one stone implement (an adze) said to have been made in Wakonai).

Nowadays there is peace on the island. There is intermarriage between the old warring factions. When the Wakonai people are short of garden produce toward the end of the dry season, as is not infrequently the case in this low rainfall area, they trade wallabies and big crabs to the Mud Bay People for root foods.

In all the villages on the parts of the island we have seen, I have been interested in stone platforms on the edges of which are set, at an outward slant, flat stone monoliths. The platforms and monoliths are not the work of the present generation. Whatever their purpose or meaning may have been, the platforms are now used as meeting places for talk and singing ("dances"), the monoliths as back rests. The platforms are called __________, the monoliths ____________.

Sunday, November 1, 1953: A hot very hazy, partly cloudy day. The natives need rain for their newly planted yams. Young plantings of bananas near the village (in small clearings in poorly forest regrowths on steep banks of the creek, etc.), look starved for water and have made little growth. The yam gardens are on the mountain slopes, so far as I have seen, always in regrowth forest. A parently there is no digging and cultivating of grassland as in the Beli Beli-Bolu Bolu area.

Botanized down the very rocky bed of the creek for about 1/2 mile. A good collection, mainly second growth and stream-side elements.

Van's traps yielded one grassland rat last night. No bat shooting. When evening approached he was chagrined to find that in routing cargo on to Bolu Bolu yesterday he sent away all his ammunition. A supply brought up by runner today.

Van has had a busy day photographing in the village, helping me prepare plants for pickling in formalin, and this afternoon doctoring the sores of the village children with sulfanilamide and elastoplast.

Monday, November 2, 1953: To avoid as much as possible the heat of the grass plains, we started for Bolu Bolu bright and early. I had called for 31 carriers. Almost double that number offering this morning - mostly from the Wakonai community, who wanted to monopolize this last carry and get out of it all the tobacco they could, but also a goodly number from Afufuia. There was some ill feeling about it last night when the Afufuias arrived from their village. I talked to the councillors and village policemen about it and told them to iron the matter out for themselves. This A.M. there was an amicable weeding out of the line to the required number of men. As parting gifts I gave each community a drum of rice, one of the old nylon flys for use when they hunt in the mountains, an equal share of our remaining trade salt, etc. The etcetera included most of a 40-lb. bale of newspaper which is highly valued.

Left Wakonai at 5:50. Van went on with the carriers while I botanized along the route. An hour after we started the sun was broiling hot. After about 8 o'clock a slight SE breeze made conditions a little better. Arrived Bolu Bolu 9 o'clock, not a little sunburned. One soon bleaches out in the mist and forest shade of the mountains.

The "Jessie" had arrived last night and Ken had most of the cargo on board by the time of my arrival. He also had ready to carry as passengers on the small vessel 20 Beli Beli natives he had recruited for Buntings without my knowing anything about it. A pretty raw action, whoever was responsible.

At 10:45 we left Bolu Bolu, stopped at Nuatutu plantation to take on board a pig which Ken had bought as a Christmas present for friends of his in Samarai, and at 2:15 tied up at the small wharf at Mepamoiwa on Fergusson Island. Boat too overcrowded to make the run to Samarai through the night - few could have found a place to sleep. Anyhow, I wished to examine the savanna country seen on our way out to Goodenough six weeks ago and an overnight stay suited me very well. We were the guests of hospitable Charlie Corbett, European Medical Assistant in charge of the native hospital. Corbett an active, slight brunette of about 35, from the Tweed River on the Queensland-New South Wales border. He had a small ~~snake~~ for us.

From the sea the savannas or savanna forests of Mapamoiwa appeared to be timbered with a Eucalyptus. Examination showed the tree to be a form of Melaleuca leucadendron. A typically Australian community grassed with Themeda (kangaroo grass), one of the associate herbs being a Pimelea, a genus which so far as I remember is not known outside of Australia. Where I saw it the savanna forest occupied a low ridge of well-drained sandy grey soil flanked by rain forested gullies. It extended up to the crest of a high spur (1000 ft.?) behind Cape Morilyan.

Tuesday, November 3, 1953: Left Mapamoiwa at 5:30 A.M. and arrived Samarai about 8:15 in the evening. A flat calm sea and uneventful trip.

After a shave and bath I visited Geoff in the hospital. A shock to see him lying helpless, paralyzed in the right side and unable to talk more than a few words. Still, he looked bright and seemed to understand all that was said to him. Had a detailed report of his illness from Sister Bedelia Mulchay, Sister in Charge of the hospital. (A rotund, jolly person. We talked over a bottle of beer in her quarters). For several days after being seized with his second stroke Geoff was in a very bad way. For three weeks he was out of his mind. Then he began to improve, and when he learned that we were on the way back to Samarai to take him home he began to improve rapidly. Friends have been wonderfully faithful in visiting and doing all they could for him. (Ailsa Hall, Dusty Miller, Rus Webster, Tony Skewes). They have seen him daily. Lately, since his sensibilities have returned, Ailsa has read to him ~~daily~~ every evening. Tony took on the job of shaving him every other day until he had to go on patrol. Then Rus, who has visited him for an hour every morning, became barber. Lately he has been giving speech guidance and encouraging Geoff to try moving his paralized limbs. The doctor having ordered a meatless diet, and no fish being buyable in Samarai, Dusty has been going out in his launch and catching fish. Rus has been gatheriny oysters from the rocks. Now a little red meat is allowed. Geoff has eaten

enormously all through, excepting perhaps in his worst days at the beginning. Mulchay had little to say about her part. She has only one European sister to help her. They alternate on 24-hour shifts with native orderlies for help. Fortunately Geoff was the only patient in the hospital for several weeks. In the past two weeks there have been three maternity cases.

<u>Wednesday, November 4, 1953</u>: Had a talk with I.A. Sirko, Medical Officer, at the hospital this morning. He considers Geoff to be now out of danger and has certified him as fit to travel home by air. With proper therapy he should be walking and talking in three or four months, and so far as his present affliction goes, live to a ripe old age.

Air reservations for the return of Geoff and Van to the U.S. are not yet finalized. They will leave here by Qantas flying boat Thursday 12th. So far the air traffic agents here (Burns Philp & Co.) have not been able to get space on any plane across the Pacific so they have some sort of booking by BOAC to England and on to New York. "BP's" had a big party last night to celebrate the opening of their new store and their staff is not functioning very well today - those that are on the job. The air booking clerk is off duty. Heavy traffic back to the U.S. after the Melbourne Cup probably accounts for the planes being booked out. The difficulty about the present situation is that Geoff will be a stretcher case.

Sunday, November 8, 1953: Working in the terrific heat of Buntings galvanized iron godown, we had most of the collections and gear packed and crated for shipment by 3:30 yesterday afternoon. Took from my dryers this morning the last of a considerable collection of pickled plants from the lower slopes of Goodenough and from Mapamoiwa. Tomorrow should see the cargo ready, unless Van who has gone bat hunting today, has last moment collections to prepare.

On Friday I radioed the Department of Agriculture, Port Moresby for permission to export 14,000 botanical specimens, 80,000 insects, 145 fishes, 1867 reptiles and amphibians, 1645 mammals and 16 birds. Have ready to send tomorrow a radio to the Government Anthropologist for permission to export the few ethnological items (35) we have collected.

Geoff shows steady improvement. He and Van are to leave here by flying boat on the 12th, depart Sydney for London on the 14th, and from London for New York on the 17th. Have so radioed Miriam.

I hope to be able to leave on the same plane for Port Moresby.

The latest development concerning Geoff is that the Chief Medical Officer (Dr. Gunther) has ordered a nurse, carrying oxygen, needles and ice, to accompany him as far as Port Moresby. Sirko considers this unnecessary. The inference expressed locally is that the elaborate precautions are being taken as a sequence to the fairly recent death from polio of a roving U.S. reporter and the great public fuss which was made (quite unjustly, it seems) by his people back home. Gunther does not wish to have any more trouble with sick people from the United States.

Monday, November 9, 1953: Started the formalities of Customs clearance this A.M. by handing Bunting's shipping man lists and valuations of imported items expended on the expedition. (We had to lodge lists and valuations of imports upon arrival in March). Legge, the shipping man, started action immediately. He soon came to report that the local Collector of Customs had instructions from his chief in Port Moresby to charge us duty on everything not being re-exported. We have never paid duty on any previous expedition and I have not heard of any ~~scientific party~~ scientific party being charged with their ~~collecting~~ collecting materials in any country. The order of the ______________ (illegible) who is chief of Customs is especially annoying in view of the government having asked for and been promised a share ~~a~~ in our collections. Talked by radiophone with Claude Champion, Asst. Govt. Secretary, asking that customs duties be waived.

The really maddening thing came in this radiogram from the Dept. of Agriculture this afternoon, "Export permit granted providing duplicate set botanical specimens remain in territory also of other collections if duplicates available stop if sorting insects impracticable agree export provided full set returned stop formal permit following." This from a technical department whose director claims to be a scientific man - either an economic botanist or entomologist. Apart from the utter ignorance behind the demand, it comes close to being confiscatory.

Wednesday, November 11, 1953: Suspecting that Forest Botanist Womersley had no part in the holdup regarding export of collections, but wanting to make sure of his attitude and give him a chance to clear the Forest Department (which will get a set of the plants), I sent him an urgent radiogram yesterday morning. A long reply from him late this afternoon, beginning "Your information astounding" and ending "trust common sense will prevail." He has asked the Director of Forests to take action on our behalf.

The Customs Dept. has at last deigned to radio the local collector for a report on the duty problem stating my reasons for asking Customs exemption. Was shown the radiogram by friendly Kelly. There was a passage about my reasoning being "specious".

I will leave Samarai tomorrow with the collections still not cleared for export. As the local agricultural officer remarked on the situation as concerns his department, "There are some awful clots in headquarters." Dwyer, Director of Agriculture, is in Australia on sick leave.

Hanging over us all is the possibility that none of us will be able to leave Samarai by tomorrow's plane. An epidemic of flu is sweeping through the town. The place is in quarantine. Native traffic to and from the island has been stopped. Europeans are not allowed to leave if running a temperature of over 99 degrees. The hospital staff is going down with the complaint one by one. I can only hope that Geoff and Van escape it.

Staying in Bunting's house as a fellow guest is Alan Davis, manager of the Bank of N.S. Wales in Port Moresby. The bank is going to open a branch here. They own Bunting's trade store and are preparing to take it over for bank premises.

Thursday, November 12, 1953: Left Samarai by Sandringham flying boat at 9:15 and arrived Port Moresby about 11 o'clock. The nurse who was to have accompanied Geoff was down with influenza and was replaced by European Medical Assistant Jeffers. The pilot was asked not to fly above 5000 feet. At Pt. Moresby Dr. Gunther came aboard to examine Geoff. He had planned (unknown to me) to hold him for observation for a couple of days, but as the flight from Samarai was without ill effects this precaution was thought unnecessary. The flying boat took off for Cairns about 12:30.

My afternoon spent on official calls - Gov't Secretary, Dept. Agriculture, Dept. District Services, Gov't Anthropologist. At Agriculture, Acting Director F. C. Henderson showed me a copy of a permit to export our collections which he had signed on Monday. It was a reasonable document granting the permit on condition that we leave duplicates in the Territory or return them from the U.S. The telegraphed demand that we got in Samarai was the work of some junior. Anthropologist Julius had recommended to his chief, Director of District Services & Native Affairs, that we be allowed to export our ethnological collections, but the memo was lost on somebody's desk.

Have promised the Administration a male and female of each species or form of mammal, reptile, amphibian and fish collected, where duplicates are available. My proposal that the material be sent to the Queensland Museum for safe keeping until the establishment of a proposed museum in Port Moresby was agreed to.

Friday, November 13, 1953: Called on the Administrator, Mr. (ex Brigadier) D. M. Cleland, Gov't Secretary S. Lonergan, Director of Forests James McAdam, Ivan Champion, and finally F. Lee, Chief Collector of Customs. Lee has refused to budge from his position that we must pay duty unless it is waived by the Administrator with the approval of the Executive Council, as provided by law. He was to have presented the case to a meeting of the Council held this morning, but running true to form, did not do so. The Council will meet again on Monday. Cleland assured me that we would not have to pay duty.

Arranged with the Bank to remit back to New York 2000 surplus dollars. Have left about $900 here to cover obligations we will have for freight, etc., the account to be closed on my instructions from the U.S. when all accounts have been paid by Buntings.

Dined this evening with Claude Champion and his wife ("Pin"). Have known them since the mid-thirties (at Daru). Claude, as Asst. Gov't Secretary, has handled all expedition affairs. Mick and Molly Healy also guests.

Saturday, November 14, 1953: Lee assured me yesterday that he had radioed an export clearance on our collections to Samarai. Feeling it unsafe to take the word of such a man, and not wishing to leave the country until the collections were cleared, I spoke with Dusty Miller by radiophone this morning (over an hour spent in getting through). Samarai has received the clearance. I will fly to Brisbane tomorrow.

The town is agog with reports on the murder by natives of both officers at Telefomin Gov't station on the upper Sepik. Both were inexperienced and opinion is that they should not have been posted to an area only recently (1948) brought under control. No less than 36 experienced officers, some of them 15 years in district service, are away at administration school in Sydney! Many stations are in charge of young patrol officers such as Szarka and Harris who were killed at Telefomin.

A great patrol of 4 white officers and 36 native police has been flown into Telefomin to investigate the murders and apprehend the culprits. Critics of the administration are calling it "Operation Hannibal".

Tom Gilliard of the Museum, en route to the middle Sepik and Telefomin on a bird collecting and photographing expedition (his wife with him) left Port Moresby early in the week. His plan was to go to Telefomin in about 3 months' time. The area will probably be closed to him.

<u>Sunday, November 15, 1953</u>: Left Moresby 12:50 by Qantas Skymaster and arrived Brisbane's Eagle Farm airport 7:15. Very smooth flight, the big plane not much more than half full. Flew at 9500 ft. and touched the queensland coast near Rockhampton. Clearing Customs took about 1¼ hours. No fuss, but not enough staff.

Improved my acquaintance with a New Zealand writer - retired sheep farmer named Douglas Cresswell. On a 10-year assignment from his government to report on Australia, he has done a 7-week tour of Papua/New Guinea as guest of Qantas. Visited the Trobia (3 weeks), Central Highlands, Middle Sepik, APC oil prospecting camps in western Papua, including Everill Junction on the Fly River. Keen, intelligent, "English type" man of about 60 who saw 4 years of service in World War I. Much impressed with opportunities for agriculture and other development in the territories.

Qantas manager in Port Moresby talked with me about a charter flight which the Dutch Government has been trying to arrange with his company to land an administrative party at Lake Habbema for purpose of bringing the Balim Valley under control. Flight now unlikely to be made. Dutch military restrictions too stringent. No photographs - air or ground - allowed. Qantas interests are largely from a publicity point of view. Dutch military said to be charging the civil administration tremendously high rates for plane charters.

Brisbane people complaining about the first heat of summer. Weather pleasantly cool to me after Port Moresby and Samarai. Town much quieter ~~afxxx~~ than Moresby - at least this Sunday evening. At the Papua Hotel in Port Moresby there is a roar of motor traffic. At Lennon's in Brisbane all is quiet, even though this is the wool sale season and the town full of buyers from other countries.

Monday, November 16, 1953: Applied for a Pan American booking for departure from Sydney Nov. 29 and arrival Honolulu the same day (day lost on crossing the International date line.

Most of the day spent on visits to the Museum and the Herbarium. George Mack, director of the Museum, is willing to hold and look after any collections we send for the Papua/New Guinea administration. He will so advise the Gov't Secretary.

Mack had much to say about a row he had this year with Ernst Mayr and George Tate. Mayr wished to employ an Australian to collect birds in Queensland for the American Museum. The man unknown to Mack (himself an ornithologist) and therefore he was unable to recommend him to the conservation authorities (Dept. of Agriculture & Stock). Permit to collect not granted. Policy is to grant, without question, permits to representatives of scientific institutions coming from abroad, but to be chary about giving permits to Australians to collect for foreign institutions. Outside of scientific institutions there is not a competent or experienced bird collector in Australia today, according to Mack.

Tate came into the row after reading a Mack letter to Mayr in which he was charged with blantantly publishing a report on protected mammals which were collected illegally in Queensland for A.M. These mammals, I learn today, were two specimens of Dendrolagus, Bennettii collected by Roberts on Mt. Finnegan.

Talked with Francis, Blake and Smith at the Herbarium. Francis' health does not allow him to do much and he retires next June. Blake and Smith spend most of their time keeping abreast of routine, mostly work in connection with identification of weeds. Everist (Senior Asst. Botanist) is now in the near west directing aerial spraying of poison to kill brigalow. Direction of such work should hardly be the work of a botanist.

Discussed with Blake experiments on soil improvement in the Wallum country of which rather sensational abcounts have reached the U.S. press. Experiments with trace elements and ordinary chemical fertilizers are geing carried out in different areas by Queensland Dept. of Agriculture, Queensland University, and C.S. I.R. O. There is little to show for them to date. But in ~~the~~ South Australia there has been success in increasing the fertility of very poor soils (80 Mile Desert?) partly at least by application of cobalt.